

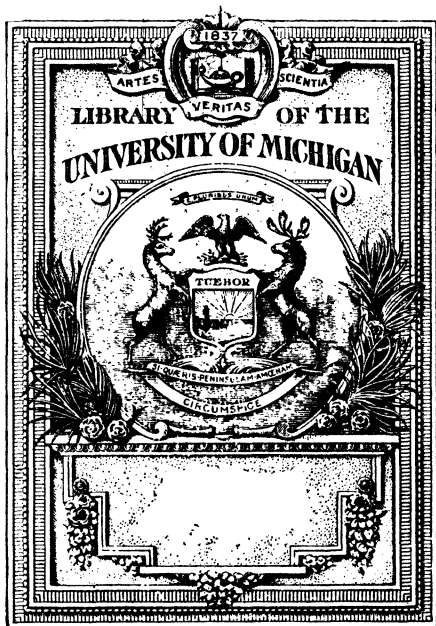
B

1001-1000

HV

741

A32

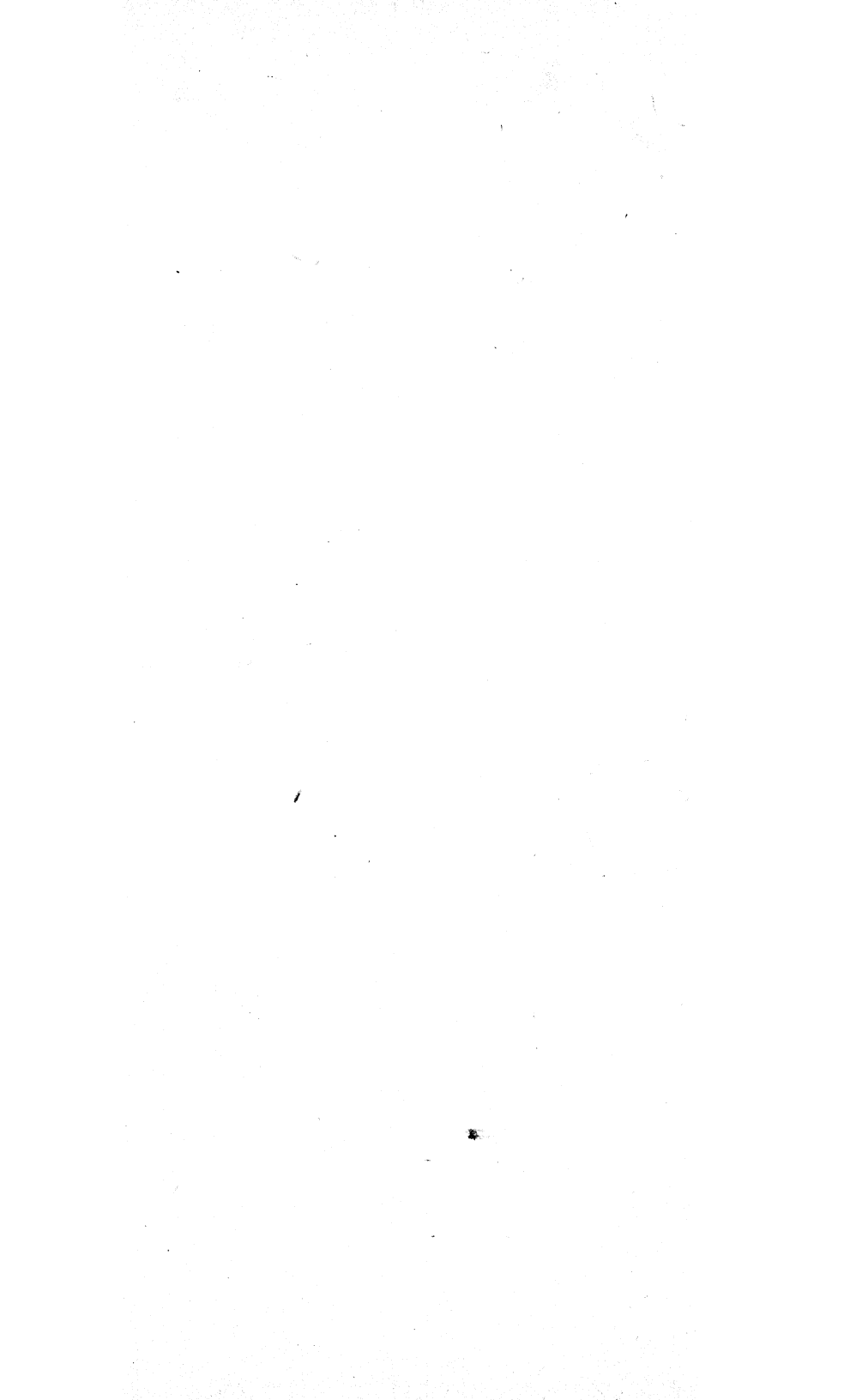




HV

741

.A32



JUL 10 1923

U. S. [DEPARTMENT OF LABOR]

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# MATERNITY AND INFANT CARE

## IN A MOUNTAIN COUNTY IN GEORGIA

BY

GLENN STEELE



Bureau Publication No. 120



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1923





U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# MATERNITY AND INFANT CARE

## IN A MOUNTAIN COUNTY IN GEORGIA

BY

GLENN STEELE



Bureau Publication No. 120



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT IS  
NOT POSSIBLE TO DISTRIBUTE THIS BULLETIN IN LARGE  
QUANTITIES. ADDITIONAL COPIES MAY BE PROCURED  
FROM THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.  
AT  
15 CENTS PER COPY



Gen.  
9/14  
K.S. Gout.

## CONTENTS.

	Page.
Letter of transmittal.....	v
Introduction.....	1-3
Scope of the Georgia survey.....	2
The mountain county.....	5-10
Part of area within national forest.....	5
Copious water supply.....	5
Roads.....	6
Isolated homes.....	6
Railroad, post, and telephone service.....	7
Agricultural development.....	7
Principal products.....	8
Mining a secondary industry.....	9
County health service.....	9
Inaccessibility of medical care.....	10
Maternity care.....	11-22
Large families.....	11
Prenatal care.....	11
Attendant at birth.....	14
Postnatal care by physicians.....	15
Physicians' fees.....	16
Midwives.....	16
Complications.....	18
Mothers' work.....	19-21
Field work.....	20
Work in relation to childbearing.....	21
Care and rest following childbirth.....	21
Child care and infant mortality.....	23-33
Illiteracy.....	23
Instruction in infant care.....	24
Infant feeding.....	25
General health.....	27
The snuff habit.....	29
Illnesses of children.....	29
Maternal histories.....	30
Infant mortality.....	31
Losses in early infancy.....	31
Causes of death.....	33
Use of patent medicines and home remedies.....	35-40
Federal food and drugs act.....	35
Patent medicines given babies.....	36
Patent medicines used by pregnant women.....	37
Teas used for medicinal purposes.....	39
Other home treatment for babies.....	40

	Page.
Housing and sanitation.....	41-46
Congestion.....	41
Crowded sleeping quarters.....	42
Houses without windows.....	43
Attractive features of mountain homes.....	43
Household equipment.....	44
Lack of toilets.....	45
Water supply.....	45
Typhoid fever.....	46
State health activities relating to maternity and infancy.....	47-51
Birth and death registration.....	47
Mortality statistics.....	48
Division of child hygiene.....	49
County health organization.....	50
Public-health nursing.....	50
Summary.....	53
Conclusions.....	57

---

## ILLUSTRATIONS.

---

	Face page.
Plate I. Typical roads.....	6
II. Primitive methods of farming.....	8
III. Mountain mothers and their babies.....	18
IV. Mountain children.....	28
V. Types of mountain houses.....	42

## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, December 13, 1922.*

SIR: There is transmitted herewith a report entitled "Maternity and Infant Care in a Mountain County in Georgia," one of a series of bureau studies of child welfare in rural areas. The field work was done under the direction of Miss Margaretta A. Williamson and the report was written by Miss Glenn Steele. Dr. Frances Sage Bradley was in charge of the children's health conferences held in the course of the investigation.

The Children's Bureau is indebted to State and local health officials and to physicians and school officials of Georgia for much helpful cooperation.

It is a pleasure to report that since this survey was undertaken there has been a great expansion of public-health activities in Georgia. The bureau of vital statistics was organized in the State board of health in January, 1919. Since that date the State has been admitted to the United States death-registration area and has instituted a campaign for complete birth registration which it is hoped will result in its inclusion in the United States birth-registration area. A division of child hygiene has been created, and the work of the State department of health has been expanded in other directions. The Federal Maternity and Infancy Act has been accepted by the legislature, and a State program for the reduction of maternal and infant mortality is now under way.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*





# **MATERNITY AND INFANT CARE IN A MOUNTAIN COUNTY IN GEORGIA.**

---

## **INTRODUCTION.**

Public protection of maternity and infancy was accepted as a governmental policy when the law for the promotion of the welfare and hygiene of maternity and infancy was enacted in November, 1921. The act provides for the cooperation of State and Nation in an effort to safeguard the life and vigor of mother and child. Recognition of the need for constructive public action in their behalf followed nearly a decade of study of child welfare in the United States by the Children's Bureau.

Infant mortality was the first subject chosen for field investigation after the bureau's establishment in 1912. Little information touching the problem was available at the time, although an appalling annual loss of young life was indicated by estimates for the Nation, based upon meager data. To ascertain the facts, studies were commenced and have since been carried forward in American cities of diverse characteristics, and in 1916 a series of surveys of maternity care and child welfare in rural regions typical of various sections of the United States was begun.

The approach to the problem was necessarily somewhat different in town and country. In the cities fairly complete records of births and deaths permitted a measurement by infant mortality rates of the effect of various conditions upon the mortality under 1 year of age. The relation between existing conditions and infant mortality could not be shown with such precision for the rural areas owing to the careless accountancy of births and infant losses. The rural studies, therefore, have been developed with a view to showing the environment, opportunities, and needs of the country mother and child, rather than to connect various factors with the infant mortality rate.

The subject of maternity care has been especially emphasized in the rural studies, because of its important bearing upon child conservation. The high mortality in the first few weeks of life and the losses from stillbirths and miscarriages have demonstrated clearly that the safeguarding of the infant must begin with the protection

of the mother before and at the birth of her baby. In this respect the needs of the city and the country mother do not differ, but the problem of providing proper care for childbearing women is the more acute in rural districts because of isolation, lack of sufficient medical and nursing service, and limited opportunities for education in the hygiene of maternity. Therefore the problems confronting mothers in childbirth and in the care of their children have been coordinated in the rural studies.

The survey in Georgia is the eighth in the rural series, previous reports having been issued on studies made in seven country districts, representing five States—Kansas, Wisconsin, North Carolina, Mississippi, and Montana.

### **Scope of the Georgia survey.**

The Georgia county surveyed covers about 400 square miles in the southernmost extension of the Blue Ridge Mountain belt and is bordered by the bold escarpment of that range which forms the southeastern terminus of the great mountain system.

In topographical, social, and economic aspects, and in the customs and characteristics of its people, the county was considered representative of rural conditions in the mountain counties of Georgia as well as in the entire upland region of southern Appalachia. In addition, it afforded an opportunity for the study of child welfare among a people American by birth and descent, sprung from the sturdiest stocks—chiefly English, Irish, and Scotch. No other section of the country contains so large a percentage of native white persons of native parentage as does the southern Appalachian Mountain region, and in the county selected for study but 10 residents of foreign birth were enumerated in the Federal Census of 1920.

The county had approximately 2,400 families and 12,000 inhabitants at the time of the survey. Of the total population, about 4,000 were dwelling in six incorporated towns excluded from the study because they were not typical of farm conditions. This left about 1,600 families, including 8,000 persons, living in the open country.

In general, it was the purpose to limit the study to such of these rural families as were rearing infants at the time of the survey, in order that information could be secured concerning current conditions affecting maternal and infant welfare. An interview was sought from the mother of each baby born within two years preceding March 1, 1918, who resided in the area at the time of the baby's birth.

In the Georgia county, the problem of locating families in which births had occurred presented difficulties not encountered in rural surveys made in other parts of the United States. Although the



other rural surveys were conducted in States lacking complete birth registration and therefore not in the United States birth-registration area, yet each section studied had some system of recording births and infant deaths. The names and addresses of the parents to whom babies had been born could be secured from these records and were utilized as a point of departure in finding the families. The total lack of such public records in the Georgia county necessitated a canvass of every rural home to locate the babies coming within the scope of the study. In this way interviews were secured concerning 509 babies, including four sets of twins, born during the selected two-year period. Schedules were taken for infants who had died or were stillborn, as well as for the living. No colored infants or white infants of foreign-born parentage were discovered in the entire canvass.

In general, the topics of inquiry concerned the family history in relation to the well-being of the child; the health and care of the baby; the mother's prenatal, confinement, and nursing care during her last pregnancy and confinement; the size of the family and the losses sustained from stillbirths, miscarriages, and deaths; the mother's household and farm duties; the father's occupation; nativity and literacy of both parents; and the housing, sanitation, and general living conditions of the family.

In the main, the report is based upon information secured from the mothers, but this was supplemented by a study of all pertinent data available concerning the county, by consultations with State and county officials, and by interviews with physicians and midwives of the county. In addition, the work included a series of children's health conferences in various county centers, conducted at the close of the survey. A child-welfare exhibit was displayed, and parents were invited to bring children to the conferences for a physical examination by a Government physician who advised about their care, feeding, and general physical development.



## THE MOUNTAIN COUNTY.

Probably nowhere in the United States is maternal and infant welfare more conditioned by natural surroundings than in the Southern highlands; and a foreword on the physical characteristics of the county studied is essential to the understanding of its family life.

Although less rugged and remote than many of the upland regions of North Carolina and Tennessee, the entire county is a network of mountain spurs from the main Blue Ridge divide, with summits reaching altitudes of from 2,500 to more than 4,000 feet above sea level. These deploy in every direction, skirted and cut up by countless valleys, ravines, and gaps which form a labyrinth of intricate passageways.

Much of the county is under heavy forest cover. The timber includes a variety of hardwood species typical of southern Appalachia—oak, chestnut, poplar, bass, ash, hickory, and cherry. Pine is sometimes found with the mountain hardwoods, and in the more open country and along the larger streams elms, birches, and gums are abundant.

### **Part of area within national forest.**

To protect the headwaters of navigable streams, about 54 square miles of the forested section of the county—more than one-eighth of its area—has been purchased by the United States for inclusion in the Cherokee National Forest, and further purchases were pending at the time of the survey. This was virgin forest, except as it had been culled by the settler for home construction and farm purposes.

Deserted cabins on lands already acquired by the Government gave evidence of rapid depopulation; yet the entire section covered by the Government project could not be excluded from the county survey, for here and there within it families with little children were living on tracts not yet relinquished. In spite of increased isolation as their neighbors moved away, some owners were reluctant to part with their mountain home sites.

"I grew up here and know every curve of the hills," said the father of one family, "and I'd hate to sell this patch of ground."

### **Copious water supply.**

With heavy rainfall and the protection of forest cover, a copious water supply for the region is insured the year around. Only two

of the county's swift streams attain river size, but feeding these, countless creeks sweep down the steep mountain slopes and debouch by meandering courses into the main channels.

Illustrative of the turbulent character of these streams and of their coiling rock-cut courses is a description by the United States Geological Survey of the county's principal river:

Numerous small cascades and steep rapids alternate with quieter stretches. There are two cascades about 100 feet high.

[At one place] the river enters a tortuous mountain gorge, through which it flows 9 miles to gain 2 miles of actual distance, with a grade approximating 20 feet to the mile. This part of the river is full of rapids and is bordered by steep slopes and many cliffs. After emerging from the gorge, the river flows across a plateau in a valley 200 to 300 feet deep.

### **Roads.**

The effect of so rugged a topography on routes of travel was manifest, for the natural barricades of mountain, forest, and stream had seriously impeded the progress of road building. Although it was estimated that the county had about 400 miles of public roads, there were no improved highways. The roads were of dirt only; and owing to the character of the soil, the amount of rock, the steep grades, and the heavy rainfall, most of them were in poor condition.

Prior to 1917 little progress had been made in road building, owing to the operation of what was known as the "pick and shovel" law. Under that law each man "worked out" his road tax in his own vicinity, using his own tools. The county had no equipment. Little beyond the most needed repair work was accomplished in that way. This law was superseded in 1917 by a measure which demands either 10 days' work or a commutation tax of \$5 from citizens subject to road tax. As a result, cash payments were usually made and practically no one "worked" the roads.

In the year prior to this survey only about \$13,000 was available for road expenditures in the county. This sum included \$5,000 received from commutation taxes, which it was necessary to expend upon repair work in the districts where it was raised; so that not more than \$8,000 was available for road building. An estimate made by the State highway engineer for building earth roads in the most accessible part of the county placed the cost at \$2,000 per mile.

With the money available for one year, the county could have improved but 4 of its 400 miles of public highways. No attempt had been made to issue bonds to furnish funds for good roads, because it was not believed that the voters would favor the project, nor had State or Federal aid been secured.

### **Isolated homes.**

In the more inaccessible parts of the county homes were visited that could not be reached by wagon, access being by trail. Bridges



PLATE I.—TYPICAL ROADS.



were few, and it was often necessary to ford many times in a mile. The road leading to one home on the mountain side was crossed by a creek five times between the foot of the mountain and the cabin.

In one family, separated by a mountain range from the nearest store and post office, the father had not called for his mail in 12 months, the mother had not been to the settlement in 7 years, and the father's mother had lived 60 years before she saw a train.

Another woman living across the same range had never traveled beyond the nearest village, and had not gone there during the 9 years of her married life. A third instance was that of a mother who had not been to the nearest settlement, 6 miles away, in 20 years.

Ten miles to the nearest store or 15 miles to the nearest physician, "as the crow flies," were distances better measured by hazards than by miles, and the mountain family was isolated by poor roads rather than by distances. A mother who resided only 3 miles from town, one-third of the distance rugged trail, stated she had lived there a year before she saw another woman. At one home the father gave most of the requested information, and explaining his wife's shyness said: "She has seen mighty nigh no strangers and never seen a train."

Not many farm families owned vehicles suitable for transportation. Automobiles were owned by townsmen and a few farmers, but could be driven only over main-traveled roads. Carriages and buggies were not common, and horse and wagon or ox and cart were the usual means of family travel. Moreover many families were without these.

### **Railroad, post, and telephone service.**

The county was not, like some of its neighbors, wholly without railroad service, its two most accessible valleys being tapped by branch roads. It had a larger number of post offices than any other county of Georgia, owing to the lack of rural delivery service. Two Star routes carried mails from town to town, but delivery service to rural homes was furnished only over one short route. The rural resident was obliged to travel to the nearest post office for his mail—sometimes a day's journey.

The telephone had not come into common use, and house phones were found installed in only 3 per cent of the homes visited. Connections between towns had been established but in most cases the town telephone was too far away to be of immediate assistance in time of need.

### **Agricultural development.**

Agriculture is the chief industry of the county, although only 57 per cent of its land area is in farms, and of the so-called farm land

about three-fourths is woodland and but one-fourth under cultivation.<sup>1</sup> In the plateaus and valleys well-cultivated and productive farms are found; but many farm sites are on the mountain slopes, where clearing and tillage are so difficult that cultivation is confined to a small fraction of each holding and the crop usually limited to what can be cultivated by hoe and harvested by hand.

Poor roads and inaccessible markets play a large part in the retardation of farming. Without the prospect of profitable marketing there is little incentive to increase crops by tillage on a larger scale and the introduction of modern machinery; consequently the mountain farmer often raises only sufficient foodstuffs for his own family.

The agricultural data collected in the Federal Census of 1920 furnish the following facts concerning the mountain county:

The average farm acreage was 106, with but one-fourth under improvement. The value of the average farm was placed at \$1,708 and the value per acre was given as \$9.27.

Of the 1,387 farmers but 5 were colored and 1 of foreign birth.

More than 70 per cent of all farms were worked by owners and but 29 per cent by tenants, of whom the majority were share-tenants or croppers. Only 6 per cent of the farms cultivated by owners were mortgaged.

Although farming by tenancy has increased noticeably in Georgia—two-thirds of its farms are cultivated by tenants<sup>2</sup>—the tendency of the mountain farmer is to own his own land and to hold it free from debt. The effect of land ownership by the farmer was seen in the stability of the county's population. The majority of the families coming within the scope of the survey were permanent residents, and there was little evidence of the migration associated with the landless farmer.

### Principal products.

The corn crop is the mainstay of the county, with rye, wheat, potatoes, beans, peas, sorghum, apples, and live stock as other principal products. Often corn, potatoes, poultry, pigs, and the summer garden products were the sum total of supplies raised for family maintenance. In other cases more diversified crops pointed to interesting possibilities for agricultural development.

At one hilltop farm reached by a rough and seldom-traveled trail the home of a family of seven, including a baby of 5 months, was visited. This farm had a good orchard with a variety of fruit trees, including apple, peach, cherry, and apricot. An interesting addition to the staple crops was a large ginseng bed under a covering of pine boughs. The roots of this medicinal herb are exported to China,

<sup>1</sup> Fourteenth Census of the United States, 1920. Bulletin, Agriculture: Georgia, p. 17.

<sup>2</sup> Fourteenth Census of the United States, 1920. Bulletin, Agriculture: Georgia, pp. 16, 56.



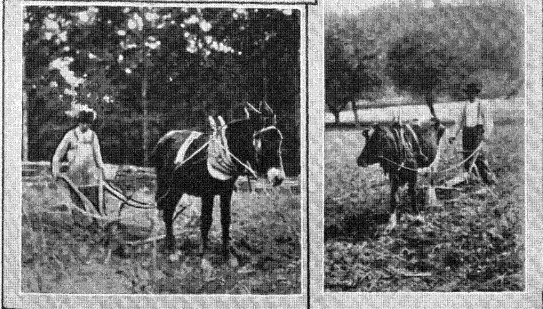
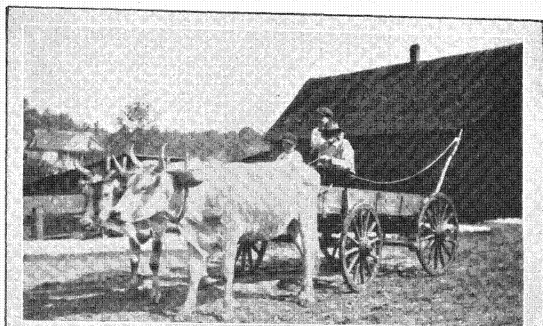


PLATE II.—PRIMITIVE METHODS OF FARMING.



and the farmer stated he received \$1 a pound for his yield. Although the roots take seven or eight years to mature, ginseng growing is profitable.

Sheep and cattle were scarcer than would be expected in a region adapted to grazing, but usually hogs were kept, pork products and corn being the chief articles of family diet. Fortunately, milk was frequently a most valuable addition to this limited fare, for about 90 per cent of the families visited owned milch cows.

### **Mining a secondary industry.**

Mining was the industry second in importance in the county, copper being the chief of a considerable variety of mineral deposits. Copper prospects in one corner of the county had been operated sporadically for half a century and one mine had been extensively developed. The ore was shipped to a smelting center across the county border for treatment. The influence of this adjacent mining town was felt in the rural part of the county near by, both because vegetation had been injured by sulphur fumes from the roasting and smelting processes and because employment in mine and smelter was open to the farmer.

### **County health service.**

The county had not adopted important measures to safeguard the general health of its citizens which were authorized by State legislation. The Ellis health law, an act providing for organized county boards of health and for full-time health commissioners, had not been accepted by the county and it was without a full-time health officer. The county physician had a few routine duties to perform such as caring for the health of prisoners, but he was a practicing physician who was not expected or paid to devote his entire time to county health work.

The State law providing for the registration of vital statistics was another measure not enforced in the county at the time of the survey. Public records of births and of deaths were thus nonexistent, and figures were lacking whereby the county could take stock of the well-being of its people by the index of infant, maternal, or general mortality.

The State of Georgia had no law regulating the practice of midwifery, and at the time of the survey had none requiring the use of prophylactics for the prevention of blindness in the newborn.

Facilities for medical care of the mountain mother and child were meager, the lack of hospital service being most conspicuous. Although some 400 square miles in area, the county had no hospital; and none was located in any of the adjacent counties of Georgia. Of the 505 mothers included in the study but one had been confined

in a hospital. She had traveled 142 miles to the metropolis of another State to secure hospital care when her baby was born.

At the time of the survey seven physicians who were residents of the county served its 12,000 people. Thus there were about 1,700 persons to each physician, as compared with 726 persons per physician for the United States as a whole.<sup>3</sup> The county residents were not wholly dependent upon this small staff for medical attention, however, as physicians from bordering counties practiced in sections of the county within convenient range of their headquarters.

### **Inaccessibility of medical care.**

The difficulties of travel were a serious handicap in obtaining medical attention. "I allow you couldn't get a doctor to come over here any time," said the mother of one mountain-bound family. "Sometimes, they scarcely could get here. Horseback is the only way and not safe in winter."

The following story of the difficulty of securing medical attention for a mother at childbirth under such conditions is but one of many related:

A bad winter storm had set in when a young wife of 17, expecting her first baby, realized that the child was about to be born. The father started on horseback for the nearest physician, 8 miles distant, and was able to reach his office, but the doctor could not use his car on the roads and feared to attempt a horseback ride over the slippery roads and across creeks jammed with drifting ice. The father returned home alone and found the mother in labor. He then went over a high mountain to secure the services of a very old woman who practiced midwifery. She returned with him through the storm riding behind him on his horse. Although covering but a few miles, the route led over one of the highest and most difficult ridges of the county.

When it was found that the doctor, who had promised to come in the morning, had not arrived, a further attempt to secure him was made by the grandfather, who went on muleback. The doctor finally undertook the trip in a buggy but did not arrive at the mountain home until afternoon, seven hours after the baby was born.

When as a last resort the remote mountaineer is obliged to carry his sick wife or child to the doctor, the lack of good roads becomes tragic. One mother, suffering from childbed fever, endured with Spartan fortitude a wagon ride over 15 miles of rough road to the nearest physician. Another mother, 40 years of age, had been ill several months following the birth of her child. Her sufferings becoming acute, a drive to town to consult the physician was undertaken. The physician found that she was in a serious condition necessitating an operation. There was no place for this but her own home, and after the physician's examination the return trip over many long rough hills was made with the mother lying on two chairs in a homemade springless wagon.

---

<sup>3</sup> State Board Statistics for 1920, *Journal of the American Medical Association*, April 30, 1921, p. 1248.

## MATERNITY CARE.

Marriage and motherhood come early to the mountain girl and large families are the rule. Three-fifths of the mothers included in the study were married before they were 20 years of age; 61 became wives before they were 16 and 9 before they were 14 years old.

Only 5 babies had been born to unmarried mothers, giving an illegitimacy rate of 10.1 per 1,000 live births for the mountain area. Statistics on illegitimacy which would afford comparisons with other rural areas of the South or with highland and lowland regions are not available, but the illegitimacy rate for the area studied was considerably lower than those of the States of North and South Carolina—14.8 and 16.9, respectively, per 1,000 white children born in 1919.<sup>4</sup>

### Large families.

Childbearing at frequent intervals is the rule among mountain women. Of the mothers married 10 years or longer, 44 per cent had had eight or more pregnancies. One woman 36 years of age was the mother of 11 sturdy sons. She was married at 12 years of age and had lost none of her children during the 24 years of her married life. A mother 38 years of age who had borne 12 children during the 22 years' duration of her marriage had lost but 1 child by death. But many other mothers who had given birth to children at frequent intervals were not so fortunate in saving them. One woman who had had 15 pregnancies and 14 live births, including one set of twins, had only 9 children living. Of her 14 live-born children 5 died, and she had had one miscarriage and one stillbirth.

Another mother, 37 years old, reported the birth of 14 children during her marriage, of whom 1 was stillborn and 3 had died in infancy. Even younger was the mountain mother of 34 years who had had 12 pregnancies in the 19 years of her married life, with four losses, two from miscarriage and two from death in infancy.

### Prenatal care.

From the replies of mothers who were questioned with especial reference to the care they received during their last pregnancy and confinement, it was learned that the great majority (86 per cent) went through the period of pregnancy without any medical supervision or aid whatsoever.

---

<sup>4</sup> U. S. Bureau of the Census, *Birth Statistics, 1919*, p. 17.

Moreover, the care received by the 71 mothers who reported some medical attention during pregnancy must be classed as wholly inadequate. Five did not see a physician, but sent urine for examination, and of the 66 who saw a physician 47 had neither a physical examination nor an examination of urine. The majority of the mothers reporting visits to or from a physician had had but a single visit; and of the 18 reporting examinations of urine, half had had but one test made. Such care during pregnancy falls far short of the requirements for adequate prenatal care as outlined in previous rural studies of the Children's Bureau. These call for a complete physical examination; continued supervision by a physician through at least the last five months of pregnancy; monthly examination of the urine at least through the last five months; and, in case of a first pregnancy, measurement of the pelvis.<sup>5</sup>

Further analysis of the character of the care received by the 66 mothers reporting visits to or from a physician during pregnancy brings out the interesting fact that prenatal care was not sought as a necessary and normal part of the hygiene of maternity, but was obtained only when the mother become so ill during pregnancy that it was necessary to call a physician or when casual circumstances resulted in medical attention.

TABLE I.—*Mothers who saw a physician during pregnancy, classified by reason for visit and character of prenatal care received.*

Reason for visit to or from physician during pregnancy.	Mothers who saw physician during pregnancy.				
	Total.	Physical examination or urine test not made.	Physical examination or urine test made.		
			Total.	Urine examination only.	Physical examination only.
Total.....	66	47	19	13	6
For prenatal supervision.....	4	.....	4	2	2
Mother's illness.....	41	30	11	8	3
Related to pregnancy.....	32	24	8	6	2
From other causes.....	9	6	3	2	1
Physician called too soon for confinement.....	5	3	2	2	.....
Physician's visit incidental.....	7	7	.....	.....	.....
Reason not reported.....	9	7	2	1	1

Only 4 of the 66 mothers who saw a physician during pregnancy recognized the need of, and sought, prenatal supervision. Thirty-two consulted physicians because of complications arising during

<sup>5</sup> See *Maternity and Infant Care in a Rural County in Kansas*, by Elizabeth Moore, p. 28. U. S. Children's Bureau Publication No. 26, Rural Child Welfare Series No. 1. Washington, 1917. See also *Minimum Standards for Child Welfare* adopted by the Washington and Regional Conferences on Child Welfare, 1919, p. 7. U. S. Children's Bureau Publication No. 62. Washington, 1920.

pregnancy which incapacitated them; 9 sought medical aid for illness not related to pregnancy; 5 summoned aid for confinement, which did not occur until later; 7 saw doctors who were attending other members of the family or "happened to pass by"; and 9 did not report the reason for consultation. Some prenatal advice or treatment was secured by mothers who came under a physician's care for the reasons enumerated, but 71 per cent of the mothers had neither of two vital essentials to the safe conduct of pregnancy and confinement—a physical examination, and analysis of urine.

Good prenatal care is especially important for the woman bearing her first child, in order that such complications as eclampsia (convulsions) and those resulting from obstructions to labor may be avoided. The former disease may be warded off by proper treatment and diet, but its detection is dependent upon the examination of urine at frequent intervals. The requirement of complete physical examination and pelvic measurements is considered especially necessary in case of a first child to determine whether there may be any mechanical obstruction which will complicate labor.\* Yet of the 89 mountain women facing motherhood for the first time, only 7 had had their urine examined and but 2 had had a physical examination with pelvic measurements. The death of a young mother in this group, who was married at 14 and gave birth to her first baby when she was 16, occurred a few months after her confinement. The following information was given by members of her family:

The young mother was not strong during her pregnancy. She consulted a physician but did not have an examination of urine. She had six convulsions during the week before her confinement and six more after the birth of her baby. She never regained her strength sufficiently to sit up for an entire day after the baby came, although she nursed the child until three weeks before her death, which occurred when the baby was about 4 months old. Members of her family stated that the physician who attended her did not inform them as to the cause of her death.

Another young mother, bearing her first child, reported a difficult delivery accompanied by convulsions. She had received no prenatal care, although she stated she suffered with "kidney trouble" during the last three months of the pregnancy. Swollen limbs and "kidney trouble" were complications of pregnancy frequently reported. A mother who said she "was not able to walk" for three months before her last confinement and "couldn't stand long enough to cook a meal of victuals" had received no prenatal care. Another mother going without treatment during pregnancy said she could not stand on her feet "more than five minutes at a time" during the last three

---

\* Meigs, Grace L.: *Maternal Mortality From All Conditions Connected With Childbirth in the United States and Certain Other Countries*, p. 12. U. S. Children's Bureau Publication No. 19. Washington, 1917.

months of her pregnancy. Of the 12 mothers who gave birth to still-born infants but 1 had had any prenatal care, and she did not see a physician until the last month of pregnancy.

Without minimizing the difficulties of securing medical care in this rural area, the fact remains that the mountain woman does not realize the need for the hygiene of pregnancy, so important to her own well-being and that of her child. From the character of the prenatal care given those mothers who received medical aid during pregnancy it is noted, further, that requisite measures which obtain in good obstetrical practice were not provided in the rural area. Yet "much must be said for the native mountain physician," writes John C. Campbell in *The Southern Highlander and His Homeland*. "At the best it is a hard life, riding by day and by night the rough trails that lead along creek, branch, and over mountain to isolated homes; and there is little reward save in the knowledge of duty performed. The oft-repeated criticism, 'He won't come unless he knows he can get his money,' must be tempered by adding that his field is far too large for him to serve, and that he may easily spend a whole day going 10 to 15 miles and back to see one patient."<sup>7</sup>

### Attendant at birth.

At confinement, 337 mothers—two-thirds of the entire group—were attended by physicians; but in 41 cases the physicians did not arrive until after the baby was born, although in time to give assistance. In 34 additional instances physicians were summoned but were not in attendance at birth, 27 arriving too late to perform any obstetrical service and 7 failing to answer the call. This meant a failure or partial failure of service in 20 per cent of the maternity cases to which physicians were summoned.

Many stories were told of futile attempts to secure a doctor, and of the anxiety and suffering of mothers in labor who were awaiting the arrival of medical aid. Often bad weather and bad roads frustrated the efforts of the county practitioner to reach a maternity case in time, or he was out on another case when called for maternity service and the mother was obliged to wait while a physician at some more distant point was sought. Not infrequently several villages were scoured before a doctor could be secured. The delay was lengthened if the messenger was obliged to go on foot or mule-back, as was frequently the case.

A mother was in labor from one day until the next while her husband spent the night on a roundabout trip to secure a physician. The doctor at the nearest village, 3 miles distant, was out when the husband arrived. He then drove 8 miles to another town and

<sup>7</sup> Campbell, John C.: *The Southern Highlander and His Homeland*, p. 205. Russell Sage Foundation, New York, 1921.



found that the doctor there was on a case 2 miles farther distant. This physician was finally secured and reached the mother before the birth of the child.

A mother who was prematurely confined in midwinter explained that "it was cold and the snow on the ground was frozen" so that the physician did not arrive until late afternoon though the baby had been born and had died in the morning. An aunt had cared for the mother.

In one case the physician sent for started immediately upon receiving the call, but, although he was only 5 miles distant, the mother stated, it was "such a muddy and bad time"—in January—that he did not arrive until too late to be of any service. Her baby was stillborn.

A mother aged 17 told of the loss of her first baby, born when she was 15 years old: "My husband and I were young and didn't know how much there was to having children. We called a neighbor when labor pains began, but she didn't know what to do." After the mother had suffered 12 hours the father went for a physician, but he had trouble in finding one, as it was Sunday, and did not return with the doctor until another 12 hours had passed. In the meantime the baby had been born dead.

Fear that the physician would fail to reach them in time for delivery was the source of much worry among the mothers interviewed who tried to secure medical aid at confinement. Others admitted they had no hope of securing a physician and did not attempt to do so. "I never had a doctor when any of the children were born," said the mother of seven. "We lived too far, and he couldn't get there."

### **Postnatal care by physicians.**

Medical attention during the lying-in period, as during pregnancy, is not usually obtained by the mountain mother, for with the confinement services performed the care of the physician customarily ceases. In 77 per cent of the cases attended by physicians the mother was not visited after confinement. One return visit was made in 13 per cent of the cases. Only 17 mothers had three or more postnatal visits from physicians; and in the majority of such cases the physician's attendance was required because of complications following labor, although one mother stated her physician "always called to see how the mother was getting on." Her statement was in line with other evidence that postnatal supervision of maternity patients was to a large extent dependent upon the character of the practice of the individual physician. Regardless of the distance to be traveled, it was the custom of a few doctors to make at least one return visit to their patients. Others did not

revisit unless called because the condition of the mother was unfavorable.

### Physicians' fees.

The standard charge for medical attendance at childbirth was from \$10 to \$15. Ten dollars, the most common fee, was the charge in 169 of the 337 cases attended by physicians; in 83 cases the fee was \$15. While aftercare by a physician was considered a part of confinement service and no specific charge was made for postnatal visits in normal cases, postnatal attention was given more frequently by physicians charging the larger fee. Visits following confinement were made in 31 per cent of the cases in which \$15 was charged, as compared with only 15 per cent of the cases in which the fee was \$10.

The distance to be traveled apparently did not affect the cost of medical attention at childbirth. There was no mileage charge such as was made in the rural area studied in Montana, where the cost of confinement care depended chiefly upon the distance traveled by the doctor.<sup>8</sup> In fact, the actual distance between mother and doctor, although at times traversed with extreme difficulty, was not great for a rural area—in only 7 of the cases attended by physicians was it so much as 10 miles.

### Midwives.

As has already been noted, Georgia had no law regulating the practice of midwifery. In a bulletin issued by the Georgia State Board of Health in 1916 occurs the following statement about midwives: "They are particularly dangerous in Georgia, as this State does not require them to take a course of training or pass satisfactory examination. As a consequence, any woman, regardless of how dirty, ignorant, and diseased she may be, can be a midwife."

In all, there were 43 so-called midwives in the area, who had attended 139 confinements during the period of the study. They were known as "granny women," and were usually older women in the various communities who had brought up large families themselves and who had a considerable practice, even if limited to attendance at the births of their grandchildren and great-grandchildren.

There were 10 midwives in the area who had attended five or more childbirth cases during the period of the study. Of the 8 interviewed—1 had died and another had moved from the area—only 1 had received training. Although not a graduate nurse, she had had two and one-half years' hospital training. For the rest, the midwives of the county, while well meaning, were without even a rudimentary knowledge of the measures of cleanliness and asepsis

---

<sup>8</sup> Paradise, Viola I.: *Maternity Care and the Welfare of Young Children in a Home-steading County in Montana*, p. 56. U. S. Children's Bureau Publication No. 34. Washington, 1919.

required in obstetrical care. Moreover, they were steeped in the superstitions and practices of a bygone generation. The nature of obstetrical service given by the "granny woman" is shown by the following facts secured from the 7 untrained midwives interviewed:

None make special preparation for the cases. They carry no bag or equipment with them, using the family shears to cut the cord and whatever materials the family happens to have for other purposes. They wash their hands with soap and water but do not use antiseptics. The bed is prepared with pieces of old quilt and clean sheets, when available. Six make internal examinations; the other believes in "letting nature take its course." Teas of black pepper, black-gum bark, ginger, witch-hazel, and squaw vine are usually given to hasten the birth. Four midwives also give quinine. Five call physicians in cases of prolonged labor or hemorrhage, or when the afterbirth is not expelled. One midwife who said that she advised the family to call a physician in abnormal cases added: "But it is not much use, because it would take seven hours to get a doctor, if he was in his office and would come, but they hardly ever will come over here."

The midwives interviewed were from 50 to 80 years of age—six were over 60; their years of practice ranged from 30 to 50. Two could both read and write, three could read but not write, two could do neither. Their charges were from \$2 to \$5 for confinement services.

Incompetent as was the midwife to care for mothers in childbirth, it should be noted that in many cases mothers were solely dependent upon such care owing to the inaccessibility of medical aid. The service of the midwife was sometimes performed without pay, and even when a charge was made the services were often in the nature of neighborly accommodation. One midwife aged 64 said she did not want to practice, but people "send and insist." Certain mothers expressed a preference for midwives rather than doctors, giving as reasons the smaller charge for services, the longer stay (the midwife often gave nursing care and helped with housework), and a prejudice against having a man attend them in confinement.

Midwives did not arrive in time for delivery in 11 per cent of the cases they attended. The delayed arrival in one case caused the mother to be left entirely alone at the birth of her child and for two hours thereafter.

Nobody but a 2-year-old child was in the house with another mother when her baby came. She was too frightened to do anything for herself and waited alone an hour before her husband returned. A midwife arrived in time to cut and tie the cord and take the after-birth.

Twenty-nine mothers gave birth to their babies without the aid of either a physician or a midwife. The father was the sole attendant at three births, and in the other cases relatives or friends did what they could for the mother.

### Complications.

With evidence limited to the statements of mothers who in a large number of instances received no medical attention and diagnosis for complications of pregnancy and confinement, it is impossible to arrive at an accurate measure of the prevalence and nature of such complications or of the extent to which they might have been prevented by good prenatal, obstetrical, and nursing care.

Definite inquiries were made concerning stillbirths, puerperal convulsions, premature and instrumental deliveries, and 40 mothers reported one or more of those complications. There were 28 premature deliveries, 12 stillbirths, 3 instrumental deliveries, and 3 cases of convulsions.

No attempt was made to secure statistics on many other complications of childbirth, including puerperal septicemia, known to be responsible for more maternal deaths than any other single cause. However, many mothers reported illnesses incident to childbirth, either giving a definite statement of disease as diagnosed by a physician or relating symptoms of serious conditions resulting from their last confinement. Childbed fever (puerperal septicemia), milk leg, "gathered" breasts, lacerations, and hemorrhage were among the complications reported.

Five mothers reported severe illnesses from childbed fever, lasting from three weeks to two months after confinement. Twelve had serious trouble with swollen limbs following confinement, including eight cases specified as milk leg. The death of one mother five months after her baby's birth was attributed by her husband to milk leg. Of two other mothers reporting milk leg, one was not able to be about until six weeks and the other until more than seven weeks after confinement. Both had physicians in attendance. A mother who had not received medical attention stated that her feet and limbs had been swollen throughout the eight months intervening between the birth of her baby and the interview—in the winter so badly that she could not get her shoes on. She had taken six bottles of one kind of patent medicine and sent \$5 to a vendor of cures who prescribed "vinegar in which rusty nails had been soaked." This mother had never had a physician in attendance at any of her nine pregnancies. The family was isolated, being 14 miles from the nearest doctor. Owing to her illness, the mother stated she had "cooked nary a meal of victuals or carried nary a bucket of water" since the birth of her baby.



PLATE III.—MOUNTAIN MOTHERS AND THEIR BABIES.



Ten mothers told of painful experiences with "gathered" breasts; in three cases physicians lanced them, in another case a physician was not called but the husband lanced his wife's breast with his jackknife on two occasions. "The breast has never given milk since," the mother added.

Three mothers reported complications due to retention of parts of the placenta. One of these had been attended by a midwife at confinement. Twelve days later she attempted to do her housework and had a hemorrhage, "nearly bleeding to death." A physician was summoned and found that the afterbirth had not been entirely removed.

Difficult presentations and prolonged labor were complications more frequently reported.

The foregoing incidents are given to show the nature of complications in certain cases where the symptoms or results were described, without attempting to estimate the amount of illness or invalidism consequent upon childbirth. In many instances, in fact, the mothers merely stated that they had had "a hard time" or "had not been well since." Moreover, the illustrations given are confined to experiences at births within the period selected for study. Mothers who had had a number of previous pregnancies related additional instances of complications at former births, not infrequently stating that they were still suffering from the results of such complications.

In gauging the value of the mothers' evidence, it should be noted that the mountain woman is not given to exaggeration or complaint of her ills. Her tendency is rather to accept as unavoidable many of the complications of childbirth which could be prevented by good prenatal and confinement care.

### **Mothers' work.**

The diversity of the duties devolving upon the mountain housewife makes her work complex and often burdensome. The care of the children, together with the ordinary housework, is no small task where households are large—six persons were the average number for the study—but in addition to a wide range of domestic duties the mother is called upon to perform many of the farm chores and to assist in working the crop.

The responsibility of preparing the winter supply of foodstuffs rests largely upon the mother's shoulders. Only a few of the most necessary staples are purchased. Curing meat; gathering, drying, and canning fruits and vegetables; and making soap, hominy, and sorghum, are all added to the routine of housework. Carrying water, milking, churning, and poultry raising are usual chores the year around and in seasons the mother helps to plant and garner the crop.

At intervals she still finds time for the interesting mountain handicrafts of weaving, quilting, and basketry.

Homemade bedding is displayed with much pride by the mountain housewife. Among the collections of pieced quilts exhibited by the mothers interviewed were many of intricate design, bearing quaint names—Dogwood, Gentlemen's Bow, Lazy Girl, Sugar Bowl, Rocky Mountain, Lone Star, Desert Leaf, Broken T, and others. The woven coverlid is less frequently seen. One mountain woman who was still weaving coverlids remembered the time when she wove all the family garments, but the spinning wheel and loom are gradually falling into disuse. One mother stated that she used to weave all the cloth used, but found it impossible to get "bunch" cotton now. Another explained that she couldn't spin and weave because of lack of linen and cotton thread. In a cabin where one of the beds was spread with a lovely coverlid of madder and black the grandmother who wove it said that she had made the tree dyes for it herself.

One of the most arduous daily tasks in the mountain home is carrying water from the spring. Of the families using springs, only one in three lived less than 100 feet from the water supply, and an uphill journey of a quarter of a mile or more was sometimes necessary. This work usually falls to the lot of the mother, three-fourths signifying that water carrying was one of their chores. Laundry work is done at the spring or branch to save carrying water, the clothes being boiled in a huge iron kettle placed over an open fire. More than four-fifths of the mothers reported churning, gardening, and poultry raising as usual occupations and seven-tenths did the milking.

Housework was performed without the services of hired help. In one-fourth of the families there were daughters 14 years of age or older, or women relatives, who shared in the housekeeping, and in one-fifth of the families the father or older boys aided in some of the household tasks; but nearly one-half of the mothers had no help whatever with their housework.

*Field work.*—The mothers had been accustomed to farm work from girlhood; 86 per cent reported field labor before marriage, and of these more than two-fifths had been in the fields before they were 8 years of age. "I began in the field when big enough to kill a weed" or "when big enough to hold a hoe," and "hoed corn at 5 years of age," were statements of mothers explanatory of their farm labor in childhood.

In the mountain county the "crop" is corn and "making the crop" is a family affair. "Dropping corn" in the planting season is light work participated in by the mother and the children, even to the toddlers. In a few weeks there follows heavier work with the hoe,



chopping out weeds and hilling up the earth around the plants, a process repeated several times. In July the crop is "laid by" until fall, when "pulling fodder" becomes another item of the mother's field labor. Picking beans and peas and digging potatoes were other field tasks frequently reported by the mothers.

"This mountain country is awfully rough on women," stated one father. "They can't hardly make a hand in the field, the fields are so steep."

So many demands upon the mother tie her closely to the home, and if she leaves the small children must go with her. One mother interviewed had just walked to the store, carrying her baby of 13 months for 4 miles in her arms.

*Work in relation to childbearing.*—Mothers who reported having had previous miscarriages stated that in some cases they were brought on by heavy work. Overwork and heavy lifting were causes given, and among the specific tasks followed by miscarriage were mentioned: "Carrying heavy milk pails," "hanging up meat that was heavy," "lifting tubs of water," "tossing corn on wagon," "carrying water," and "big washing."

It is the custom to continue housework up to the eve of confinement, with the exception of washing—and in fact more than half the mothers reported no cessation of laundry work before the birth of the baby. Almost three-fourths of the mothers also continued their chores to the time of confinement, and some mothers whose babies were born during the busy seasons of farm work reported no remittance of field labor prior to confinement.

Of a number of instances in which mothers performed heavy tasks when labor was imminent, the following are examples: One mother prepared the family meals, did a big washing, and churned on the day her baby was born. Another carried 2 gallons of water 100 yards uphill an hour before labor began. A third washed and scrubbed on the day of her confinement.

### **Care and rest following childbirth.**

Trained nursing service during the lying-in period and at least 10 days' rest in bed after a normal delivery, with sufficient household service for from four to six weeks to allow the mother to recuperate, are minimum requirements of care after childbirth.<sup>9</sup>

Trained nursing care was wholly lacking in the mountain county. A midwife or practical nurse was obtained by 27 mothers. About one-fourth were nursed by the father or by other adult members of the household, 7 reported care by children only, and the remain-

<sup>9</sup> Minimum Standards for Child Welfare, p. 7. U. S. Children's Bureau Publication No. 62. Washington, 1920.

der were nursed by untrained women secured from the neighborhood. More than two-fifths of these women took care of the mother as an accommodation, without pay.

As with the nursing service, the mother's chief dependence for extra help with the housework is upon her family or friends. One-fifth of the mothers had no additional assistance. Two-fifths hired some extra household help on account of pregnancy or confinement, the majority of those engaged being women who came for a short time after the confinement to act as both nurse and housekeeper.

Largely due to the lack of help, the mothers were up and at their work too soon. As early as the third day after confinement, a few mothers were upon their feet, and more than two-fifths had less than the 10 days' rest in bed considered essential. Sixty-seven women resumed their household duties less than two weeks after confinement; 36 were doing chores and 16 washed within that time. Before four weeks had passed, three-fifths of the mothers were doing all their housework except washing, two-fifths had resumed their chores, and one-fourth were doing the washing.

Thus before the mother has time to regain her strength, and with a newborn child to care for, she begins the work demanded by the many calls upon her.

## CHILD CARE AND INFANT MORTALITY.

Given safe-conduct through birth, the newborn child can have no greater asset than a mother equipped with a knowledge of the principles of infant and child hygiene. The mother's ability to bring her baby safely through the critical span of his first year and to insure him a healthy childhood rests largely upon her understanding of the requirements of feeding, cleanliness, sleep, clothing, and the hygiene and sanitation of the home.

### Illiteracy.

Aside from the advice of physician or nurse, the chief source of instruction is the increasing stock of informative literature relating to such subjects, including many publications issued free of charge by Federal, State, and private agencies. This avenue of knowledge was entirely closed to one-fifth of the mountain mothers because they were unable either to read or to write. The education of many mothers not only in this group but in the group reported as literate had been almost entirely neglected owing to the lack of schools or of the opportunity to attend school. Less illiteracy was found among the mothers from 14 to 30 years of age than among those who were older, indicating that educational advantages in the mountain area are improving. Of the mothers 30 years of age or over, one in every three could not read or write, as compared with one in seven for the group under 30. Such statements as "never had a chance in my time for schooling," or "there weren't schools within reach in here when I was little," or "we were brought up when there weren't any school," explained how many of the older mothers had been denied an opportunity for education. A mother aged 30 who was illiterate had gone to school for 12 months but had no book except a "speller." Another illiterate mother had gone to school four months but did not have a "reader." Isolation was responsible for much of the illiteracy among the older women, one stating that she "only went three or four days to a few schools" because the school-house was across a high mountain. Work in the house or field kept others from school attendance. "Would go a day and miss a week," stated one of the mothers deprived of an education because she was needed at home.

Even many of the mothers who were reported as literate—able to read and write—had learned but the barest rudiments during

a few months of schooling. Their limited education was attributed to long distances from school, home labor in house or field, loss of parents, and ill health.

One who had been kept at home to work on the farm went to school "off and on over wet days"; another had been able to attend "from time corn was laid by until time for picking peas"; another had not gone more than a month a year—"from time corn was laid by to fodder-pulling time." Mothers who were the oldest of large families said they had frequently been kept from school to do house-work. Some had learned to read and write at home. One mother had lived in the mountains where there was no school until she was 15 years old, then had moved to a place "where school held" but "was ashamed to go in primary classes." She stated she had learned her "a b c's" at home and could read and write a little.

Most of the mothers were mountain girls, but a few had attended graded schools in towns of the area or in some other vicinity. In all only 7 of the 505 mothers had completed the eighth grade.

One of the noticeable results of illiteracy was the inability of some mothers to give their exact age. "In our family we never had our ages put down," stated one mother who was not sure how old she was. Another who hesitated in giving the dates of birth and death of her baby said: "I can't read to keep up with the days on the calendar." Some of the babies with illiterate mothers had fathers who could read and write, and while in 32 per cent of the families one parent was illiterate, in less than 10 per cent of all families were both parents illiterate.

In some cases the father's skill in writing was limited to the ability to pen his signature. If he could also "read print," he was reported as literate.

### **Instruction in infant care.**

Only 86 mothers reported printed matter as a source of their information on child care. The fact that three-fourths of the mothers who were reported as literate, as well as the illiterate mothers, had had no guidance from the printed word can be attributed to the fact that little reading matter is found in the mountain homes, owing to the general lack of education. The handicap was more serious because neither the physician's advice nor the valuable and practical demonstrations of the public-health nurse were available—only 7 mothers had received instructions on infant care from a physician.

While the types of reading matter on the subject of child care included standard works, Government bulletins, and newspaper and magazine articles, in two-fifths of the cases only books of questionable value or worthless advertising matter had been read.

### Infant feeding.

Thrown so largely upon her own resources in caring for her babies, the mother relies upon the advice of relatives and neighbors, which results in the continuance of many unwise and dangerous customs. In no particular was this more marked than in the matter of infant feeding; and one of the greatest needs of the mountain mother is for modern, scientific instruction in methods of nurturing her young child.

While maternal nursing is universal in this section, there is a tendency to let the baby have solid foods at an early age. The mothers have not learned the risk young babies face when given a miscellaneous diet before they are 6 months old, and the custom of supplementing the natural infant food with articles of family diet counteracts the full benefits to be derived from nursing. The prevalence of this custom in the highlands generally has been a matter of frequent comment. "Babies from the first month are fed on anything they will swallow—grease, sugar, or strong coffee," writes Emma B. Miles in *The Spirit of the Mountains*. "If you object, the mother points with pride to her sturdy older children, never reflecting that in such a severe weeding-out only the well-nigh invulnerable survive."<sup>10</sup>

Feeding customs were haphazard in other respects, and rules for "feeding by the clock" were not generally observed. Because the baby's crying is invariably interpreted by the mother as a hunger signal, she is apt to feed her child both indiscriminately and irregularly. One mother whose baby was fretful nursed her almost constantly to keep her quiet. Many began giving solid food because the baby cried. "It would cry and I thought it was starved," said one mother whose baby was fed pickled beans, eggs, meat, and other food from the table when he was 3 months of age. One indulgent mother began mixed feeding when her baby was 3 months old because "it would watch me eat and it seemed like it wanted something, too."

Artificial feeding—the term used when no breast milk is given—was resorted to only in exceptional cases. Nine of the 497 live-born babies died before they were fed, but of the remaining babies only 2 never received breast milk, and the mothers who began to nurse their babies from birth with few exceptions continued the practice throughout the babies' first 9 months or whatever portion of that period was completed when the feeding record was secured. Only 14 babies had been weaned before they were 9 months of age. Death or illness of the mother and lack of sufficient milk were the causes

---

<sup>10</sup> Emma B. Miles: *The Spirit of the Mountains*, p. 23. New York, 1905.

for weaning, with one exception in which necessity to work in the fields was the reason.

In fact many of the mothers nursed their babies beyond the period considered desirable. Of the infants who had reached their first birthday only 10 per cent had been weaned. At 15 months, three-fourths of the children who had reached that age were still being nursed, and even at 18 months more than one-half were kept at the breast.

In view of the varying ages of the babies for whom feeding records were secured, a consideration of the type of feeding at certain months of age for babies who had lived to complete the given months serves best to show the feeding practices:

TABLE II.—*Type of feeding received by infants completing specified month of life.*

Month of life.	Per cent of infants—			Month of life.	Per cent of infants—		
	Breast fed.	Mixed fed.	Artificially fed.		Breast fed.	Mixed fed.	Artificially fed.
First.....	91.5	5.8	1.0	Fourth.....	61.6	35.3	1.2
Second.....	86.4	10.9	1.1	Fifth.....	47.5	48.5	2.0
Third.....	77.8	18.8	1.6	Sixth.....	40.4	55.7	2.3

Of the 480 babies who survived their first month, 91.5 per cent were exclusively breast fed during the month. Thereafter, month by month, a marked decline in the proportion exclusively breast fed and an increase in the proportion given mixed feeding are noted. As early as the fifth month there were more babies receiving mixed diet than receiving mother's milk exclusively. In some cases cow's milk, alone or modified, was the only supplement to the mother's milk, but most of the babies on a mixed diet were more injudiciously fed. Buttermilk, sweetened coffee, sirup, butter, eggs, corn bread, meat, and potatoes and other vegetables were among the foods given in the first month. Some mothers who began giving their babies a mixed diet from the first month stated they gave "tastes of everything." A mother who gave supplemental feeding from the third day said it was her custom to begin feeding "as soon as they get to crying for something—whatever we eat ourselves we feed the children."

On the list of foods given babies who began receiving mixed diet after the first month but before the sixth were the following: "Canned stuff," "hog meat, mashed up with beans or potatoes," "sausage," "coffee with potatoes," "pickled beans," and "chocolate candy."

How serious had been the effect of such indiscriminate feeding it would be difficult to determine. Mothers interviewed with regard

to illnesses of the baby mentioned digestive disorders more frequently than any other cause of illness, and the deaths of four babies during the period studied were attributed by the mothers to gastrointestinal diseases. The feeding histories of these four babies show that none was exclusively breast fed throughout his lifetime. One, a twin baby, was not nursed after his third week because the mother did not have sufficient milk for two. Artificial feeding—cow's milk—was given from the third week until death at 7 weeks.

A second death was that of the fourteenth child of one mother. Owing to illness she did not have breast milk for the baby. She gave him cow's milk for two weeks, and then meat and vegetables and "anything he would eat." The mother chewed the food before feeding it to the baby. Death occurred shortly before the baby would have been 6 months of age. The mother stated that he had "spells of colic and much bowel trouble" prior to death.

The feeding of a third infant, who succumbed to "stomach trouble" at 3½ months of age, was changed from breast exclusively to mixed at 3 weeks and to artificial at 8 weeks. Mixed feeding was begun because of the scant supply of mother's milk, and the baby was weaned entirely at 2 months when the mother contracted typhoid fever. Cow's milk, crackers, rice, and potatoes were given the baby, but "nothing seemed to agree with it." Death occurred 6 weeks after weaning.

The fourth baby in the group was weaned at 6 weeks because the mother's breasts and the baby's mouth were sore. Cow's milk was fed the baby. The father went 18 miles over the mountains to consult a doctor, who did not come to see the baby or send medicine, but gave the father a prepared baby food. The baby continued to grow worse, developed "bowel trouble," and died at 5 months of age.

### General health.

Physical examinations of 108 children under 6 years of age were made at children's health conferences held at the conclusion of the survey in 10 community centers of the county. Town mothers, as well as country mothers, brought their children for examination by the Government physician, so that the group for which data on physical development were secured was not confined to children in families covered by the intensive survey.

An interesting comparison is afforded between the heights and weights of these mountain children examined and the average heights and weights of more than 165,000 white children under 6 years of age tabulated by the Children's Bureau from data secured in a nation-wide weighing and measuring campaign.<sup>11</sup> The average

---

<sup>11</sup> Woodbury, Robert Morse, Ph. D.: *Statures and Weights of Children Under Six Years of Age*. U. S. Children's Bureau Publication No. 87. Washington, 1921.

statures of both boys and girls in the mountain county closely approach the averages shown for the boys and girls of the same ages in the national group.

The children in the mountain county were found to weigh more on the average than the children of the same statures included in the nation-wide study. The difference in average weight for height was slightly over a pound, when both sexes were grouped together; the difference between the two groups of girls was relatively slight, while the comparisons for boys indicated that those in the mountain group were on the average  $1\frac{1}{2}$  pounds heavier. In both studies the boys were found to be heavier than girls of the same ages or of the same heights.

It is a matter of general observation that the highland children come from a people of large physique. "Our highlanders are conspicuously a tall race," writes Horace Kephart in *Our Southern Highlanders*.<sup>12</sup> "Out of 76 men that I have listed just as they occurred to me, but 4 are below average American height and only 2 are fat. About two-thirds of them are brawny or sinewy fellows of great endurance."

Although their development as to size was average or above, more than three-fifths of the children examined had one or more physical defects. Defects of the skin and teeth were those most frequently found. In this respect the findings are in line with the verdict of John C. Campbell, for many years an educator in the highland South, who writes:

While specific data are wanting on many aspects of the health problem in the mountains, an opportunity to observe some of the effects of existing conditions upon the rural child and thus indirectly upon the general health, is offered in the various boarding schools maintained throughout this region by church and independent agencies. Naturally a large number of the pupils who come from little isolated homes show many evidences of the want of ordinary care of the person. The teeth, too, usually need attention, the only attention indeed commonly given them in very rural districts being to pull them out when they ache.<sup>13</sup>

Defective teeth receive little attention, because the dentist is even more inaccessible than the doctor in the mountain area. In addition to the menace to health from neglected teeth much discomfort and disfigurement result. Among the mountain families visited the lack of dental attention was particularly noticeable in young mothers whose teeth were badly broken or missing. One mother aged 25 had had her upper teeth extracted after the birth of her second child, when she suffered greatly with neuralgia. Two years later, at the time of the interview, she had no artificial teeth to replace those missing. The appearance of a mother 27 years of age was marred by the loss of

<sup>12</sup> Kephart, Horace: *Our Southern Highlanders*, p. 213. New York, 1921.

<sup>13</sup> Campbell, John C.: *The Southern Highlander and His Homeland*, p. 215. New York, 1921.





PLATE IV.—MOUNTAIN CHILDREN.



nearly all her teeth. Her little girl of 6 had a badly swollen face at the time of the interview, due, the mother explained, to a "holler" tooth which the mother was treating with medicine. Among young children discolored and broken teeth bore evidence that the parents were ignorant of the need for preserving the deciduous teeth as long as possible.

### **The snuff habit.**

The custom of dipping snuff was not uncommon among mothers and children in the mountain area. No specific inquiry was made concerning the habit but when mothers were using snuff at the time of the interview the fact was noted. Nearly two-fifths of all the mothers were thus reported as using snuff. The habit was more prevalent among older women; of the mothers 25 years of age or older 43 per cent were found using snuff, while only 30 per cent of the mothers under 25 gave evidence of the habit at the time of the interview.

The snuff is "dipped" from the can by means of a small twig or stick frayed at one end, and then spread over the surface of the teeth and rubbed from time to time with the stick. Snuff was used for toothache by one mother who, although only 28 years old, "hoped" soon to have all her teeth extracted. One mother explained that if the teeth were not rubbed they were more liable to decay, instancing the case of her sister who used snuff without rubbing, and had lost her front teeth.

One 8-year-old girl who had used snuff for two years said, "At first it tasted as sharp as pepper, but now when I am hungry it makes the hungry feeling go away just by rubbing it on my gums." Another little girl of 8 bit off a piece from a plug of tobacco and chewed it during the agent's visit to the mother.

### **Illnesses of children.**

In accounts given by the mothers concerning the illnesses of the babies under 2, diseases of the digestive tract were most frequently mentioned. Next in number came communicable diseases, with whooping cough and diphtheria most prevalent. By the term "risings" the mothers referred to swellings of various kinds, which included a number of cases of "swollen" and "running" ears. One baby's ear "burst and ran four times, once a month during the first four months," the mother said. "Colds" were frequently referred to, and it was noted that barefoot babies and those allowed to crawl about cabin floors, swept by drafts from the fireplace and open doors, were exposed to risk in cold weather.

A considerable morbidity among the older children from many causes was indicated by the mothers' reports, but no profitable discussion is possible because of the mothers' lack of credible informa-

tion as to the nature of the diseases. Communicable diseases had been the most common cause of illness among the older group.

In a few cases, helpless children were found in the mountain home. An epileptic boy of 10, helpless since he was 2 years of age, was constantly held in the arms of some member of his family. A little girl 5 years old, in another family, had lost the sight of one eye and could not walk. Her disease was diagnosed by the doctor as tuberculosis. This child was barefoot and crawling about the floor, although one of her limbs was seriously affected. Another child, injured at birth, was helpless for 6 years, and at 8 could walk a little but was "stiff-legged." Pathetic cases, where conditions were remediable, are instanced in the story of a boy of 14 whose mother said, "He can hardly see, but there is no place nearer than Atlanta to take him to get glasses that would be right"—a journey too long to be thought of. This boy was growing to manhood without an education because his poor eyesight kept him from school.

The difficulties in securing medical attention in the rural parts of the mountain county which were related in connection with the needs of mothers were repeated in the experiences of mothers with sick children. No better illustration of the serious import of the situation can be given than the fact that in the cases of more than two-thirds of all the babies in the group studied who died in their first year no physician was in attendance at the death.

In a few instances mothers told of treatment administered to their babies in cases of extreme need by men who were not regular practitioners. A mother who had lost her fourth child when he was 17 months old "had a doctor when the baby died, but he was a herb doctor, not a regular doctor." Treatment of a baby of 8 months by a "stock" doctor (veterinarian) was described by one mother in relating the circumstances of the death of one of her children. The baby had been very healthy, but began to "fret and vomit." The nearest physician had gone to a distant city, so another physician, 16 miles distant, was sent for the first day of the baby's illness. The father was absent from home and the neighbors, thinking it would be a long time before the physician could arrive, advised the mother to send for the "stock doctor." He came and gave the baby a "dose." The child died the next day, before the regular practitioner arrived.

### **Maternal histories.**

In addition to the more detailed data relating to infants born within the selected two-year period, a maternity history was secured from each mother giving the total number of her pregnancies, the resulting number of live births, stillbirths, and miscarriages, the

number of children who survived or died, and for the latter the age at death.

About half of all the mothers reported losses. The loss of potential child life from stillbirths and miscarriages throughout the childbearing history of these mothers was high. Of the total of 2,275 issues reported from all pregnancies 144 (6.3 per cent) were miscarriages and 66 (3.1 per cent of the total births) were stillbirths. The miscarriage rate is the highest found in any of the rural studies of the Children's Bureau. The percentage of stillbirths, also, is high in comparison with rates similarly computed for other rural areas surveyed—the highest except for a lowland county of North Carolina, where the percentage of stillborn white babies was 3.9. These rates, as exemplifying conditions in the mountain county, point again to the need for better prenatal and obstetrical care that the mothers may bring safely through birth the life conceived.

### **Infant mortality.**

Among the live-born babies the extent of loss is expressed by the infant mortality rate—the number dying under 1 year of age per 1,000 born alive. The mothers reported a total of 2,065 live births. Excluding the 291 babies who were under 1 year of age when the maternity records were secured, there remain 1,774 babies for whom an infant mortality rate can be computed. Among these children 135 failed to survive their first year, giving an infant mortality rate of 76.1.

This rate for the Georgia families is considerably lower than the highest rate (89) recorded for any of the rural studies of the Children's Bureau—the rate found for families in a northern county of Wisconsin. It is also exceeded by the rate of 80 for families in a mountain county of North Carolina, where conditions were somewhat similar to those prevailing in the Georgia area. The mortality among babies in Georgia, however, is much higher than that found in the rural areas of Kansas, Mississippi, Montana, and the lowland rural county of North Carolina.<sup>14</sup>

### **Losses in early infancy.**

Turning to the group of 497 babies born alive in the area within the two-year period, there were 28 deaths of infants under 1 year of age. Here the full extent of the loss of infant life for the entire group can not be accurately measured by the infant mortality rate, because more than half of the babies were under 1 year of age when their records were secured and some then alive may have failed to survive their first year. Moreover, omissions of some births and deaths are

<sup>14</sup> Rates based on losses throughout family histories. In Mississippi and North Carolina the comparison is for white babies only.

probable where no official records are available and the house-to-house canvass covers so rugged a country.

For the second year covered by the study, March, 1917, to February, 1918, which immediately preceded the canvass, fewer omissions were likely because births and infant deaths of recent occurrence are more readily traced. Of the 291 live-born babies in this group, all had had a chance to complete their first month and all but 5 a chance to complete their second month of life by the time the information was secured. Therefore, an accurate measure of mortality in early infancy is permitted for the group. The infant deaths in the first month were 12 and in the first two months 16, the corresponding mortality rates per 1,000 live-born babies being 41.2 under 1 month of age and 55 under 2 months of age.

The first few weeks following birth are known to constitute the most perilous period of infancy, and these rates afford a comparison between the hazards of early babyhood in the mountain county and elsewhere.

In this connection it is interesting to note first that comparisons of infant mortality in city and country, shown by rates for the United States birth-registration area year by year since 1915, indicate somewhat lower infant mortality rates for rural than for urban communities, when the entire first year of life is considered.

TABLE III.—*Infant mortality, United States birth-registration area, 1915-1919.*<sup>1</sup>

Year.	Infant mortality rate.			Year.	Infant mortality rate.		
	Birth-registration area.	Urban.	Rural.		Birth-registration area.	Urban.	Rural.
1915.....	100	103	94	1918.....	101	108	94
1916.....	101	104	97	1919.....	87	89	84
1917.....	94	100	88				

<sup>1</sup> U. S. Bureau of the Census, Birth Statistics, 1920, p. 26.

No such difference in favor of the country baby exists, however, in the first month of life, during which deaths are known to be in large part due to natal and prenatal conditions—conditions which can be directly influenced by the mother's care during pregnancy and at confinement. In 1915, when the general infant mortality rate for city babies was 103 as compared with 94 for babies in rural parts of the birth-registration area, conversely the death rates under 1 month of age showed a higher mortality among rural babies, the urban and rural rates under 1 month being 43.4 and 46, respectively.<sup>15</sup> Statistics are not available whereby such comparisons for the birth-registration area can be followed year by year there-

<sup>15</sup> Unpublished figures of the U. S. Bureau of the Census, 1915.

after, but again for 1919 the appreciable advantage of the country baby denoted by the general infant mortality rate is lost when the rates under 1 month are compared—41.7 and 41.2, respectively, for urban and rural parts of the area.<sup>16</sup>

The rate of loss in the mountain county for the first month of life (41.2) was identical with that of the rural part of the birth-registration area in 1919, but in the first two months of life mortality in the mountain county, expressed by the rate of 55, was considerably in excess of that shown by the rate of 48.6 for the rural part of the registration area in the same year.<sup>17</sup>

A comparison of the death rate under 1 month for the strictly rural mountain area (41.2) with that for New York City (33.9—for white babies in 1919) shows a noticeable advantage for the large urban center where prenatal supervision has been stressed in a systematic campaign for the reduction of infant mortality.

That deaths in early infancy are largely preventable through proper prenatal supervision is even more strikingly illustrated in results obtained by the prenatal nursing service of the Bureau of Child Hygiene of New York City in 1918. The mortality rate under 1 month of age was 37 for the city as a whole, whereas among the group of babies whose mothers received the prenatal care afforded by the child-hygiene bureau it was reduced to 14.7.<sup>18</sup>

### Causes of death.

A further analysis of mortality in the mountain county by cause of death to show the extent to which the deaths occurring in the first and second months of life might be definitely ascribed to natal or prenatal conditions can not be made, because three-fourths of the babies in the group considered who died had no physician in attendance at death and the mothers' statements of causes contributing to death were indefinite. However, all deaths in the first month among the group considered, with one exception, are indicated as attributable to natal or prenatal conditions, either because the babies were prematurely born, because they died at 1 day of age or under, or because the mothers stated they were ill from birth until death.

The relationship, if any, between deaths in the second month and conditions at or before birth is obscured by the mothers' statements of cause. Such terms as "bold hives" and "pneumonia fever" were loosely used by the mountain women to indicate almost any infant ailment of serious character.

---

<sup>16</sup> U. S. Bureau of the Census, Birth Statistics, 1919, Table II.

<sup>17</sup> Ibid.

<sup>18</sup> Monthly Bulletin of the Department of Health, City of New York, October, 1921, p. 233.





## USE OF PATENT MEDICINES AND HOME REMEDIES.

Patent medicines find a ready sale in the mountain county in spite of the widespread propaganda of recent years directed against the nostrum evil. As long ago as 1909 the dangers of the traffic in patent or proprietary remedies in general was brought to official notice by the Report of the President's Home Commission on Social Betterment, and the menace to babies was particularly emphasized in a section of the report on Infanticide by Systematic Drugging of Children. Referring to infant mortality, the report states: "In this connection it is desirable to point out the serious consequences of the systematic drugging of children by 'soothing sirups,' 'teething sirups,' 'children's comfort,' and 'the infant's friend,' etc., such compounds all containing opium or morphine, not to mention the numerous cough and croup remedies in the market."<sup>19</sup>

Federal legislation enacted since the report of the home commission, such as the Sherley amendment to the food and drugs act and the Harrison Antinarcotic Act, has made it increasingly difficult for manufacturers to market preparations of this sort. However, in a list of patent medicines used in the mountain families, compiled from the mothers' statements, there occur a considerable variety of "teething sirups," "cordial drops," "cough remedies," and other nostrums—some known to contain opiates. Nearly 50 per cent of the babies included in the study, all under 2 years of age, were given patent or proprietary medicines of some kind.

In all cases these preparations were referred to as "patent medicines" and are so called in this report without reference to the real distinction between patent and proprietary compounds, explained as follows in the Report of the President's Home Commission:

By the term patent medicine, as properly employed, it must be understood that the composition is known and can be seen at the Patent Office. The proprietary medicine is a secret preparation protected by a trade-mark, and hence preferred by the owner, but both are vaguely termed by the public patent medicines.<sup>20</sup>

### Federal food and drugs act.

A number of the patent medicines on the list of those given babies in the mountain county have been analyzed by the Bureau of Chem-

<sup>19</sup> Reports of the President's Home Commission, Senate Document No. 644, p. 266. Washington, 1909.

<sup>20</sup> Ibid., p. 263.

istry, United States Department of Agriculture, and declared misbranded under the Federal food and drugs act. Under this measure Federal control is exercised over products that enter into interstate commerce. The act requires that a declaration as to the presence and amount of 11 drugs, including alcohol, morphine, opium, and chloroform, be made on the trade package of a medicinal preparation; and the manufacturer may be declared guilty of misbranding if he makes false or fraudulent statements on the label of a medicine or in the printed matter accompanying it regarding either its composition or its curative value.

### Patent medicines given babies.

The following examples of certain patent medicines declared misbranded under the act will suffice to show the nature of some of the preparations given babies:<sup>21</sup>

One of the remedies most commonly used for the mountain babies contained approximately 36.1 per cent of absolute alcohol and 3½ mls. of tincture of opium in 1,000 mls. of the article, at the time when it was analyzed by the United States Bureau of Chemistry. Misbranding of the article was alleged because the label did not bear a correct statement of the amount of alcohol and opium contained and—

for the further reason that certain statements appearing on the wrapper falsely and fraudulently represented it to be effective as a remedy for all fluxes, spitting of blood, agues, measles, colds, coughs, and to put off the most violent fever; as a treatment, remedy, and cure for stone and gravel in the kidneys, bladder, and urethra, shortness of breath, straightness of the breast; and to rekindle the most natural heat in the bodies by which they restore the languishing to perfect health; whereas, in truth and in fact, it was not.<sup>22</sup>

Another remedy used which was claimed to be effective for diarrhea, dysentery, etc., and as a remedy for ailments of teething children, contained both alcohol and morphine and was so labeled. It was declared misbranded because the label did not contain a correct statement of its alcoholic content and because the representations on label and carton—

were false and fraudulent in that the same were applied to the article knowingly, and in reckless and wanton disregard of their truth or falsity, so as to represent falsely and fraudulently to the purchasers thereof, and create in the minds of purchasers thereof the impression and belief, that it was, in whole or in part, composed of, or contained, ingredients of medicinal agents effective, among other things, as a remedy for all cases of cholera, diarrhea, dysentery, and flux, for restoring the bowels to their normal condition, and as a remedy for ailments of teething children, when, in truth and in fact, it was

<sup>21</sup> Specific samples of patent medicines used in the homes of the area were not analyzed, but the descriptions quoted from notices of judgment show the contents of samples of the same medicines analyzed by the U. S. Bureau of Chemistry when cases against their manufacturers for violation of the food and drugs act were pending.

<sup>22</sup> Notice of Judgment No. 6222, Federal food and drugs act.

not, in whole or in part composed of, and did not contain, such ingredients or medicinal agents.<sup>23</sup>

Analysis by the Bureau of Chemistry of one of the cough and croup remedies used showed it to be an alcohol-water solution, containing ammonia, glycerin, pine tar, sassafras, red pepper, reducing sugars, a laxative drug, and alkaloids. The manufacturer was fined \$100 for falsely and fraudulently claiming the preparation was a cure for croup, whooping cough, etc.<sup>24</sup>

The largest percentage of alcohol contained in any of the patent medicines given children, which had been declared misbranded, was a substance containing 60 per cent of alcohol, by volume, and in which chloroform, ether, and red pepper were present, according to analysis by Federal chemists. It was claimed to be a panacea for internal and external use and was sold as a cure for diphtheria, bloody flux, inflammatory rheumatism, la grippe, and all aches and pains. These claims were declared false and fraudulent and applied knowingly, and the company was fined \$50 and costs.<sup>25</sup>

The mother of a baby who died at 31 days of age said the only remedy she had given her baby during his illness was a patent cough medicine. The composition of this preparation, according to the label of the bottle showed by the mother, included 11 per cent of alcohol, and  $2\frac{1}{2}$  minims of chloroform to each fluid ounce. Another mother showed a bottle of "baby bowel medicine," half of the contents of which she had already given her baby, 4 months old at the time of the interview. This remedy, as labeled, admittedly contained 7 per cent of alcohol. Neither of these preparations is mentioned in the records of judgments secured under the Federal food and drugs act.

### **Patent medicines used by pregnant women.**

More than 20 per cent of the mothers interviewed had taken patent medicine during their last pregnancy. The list of such preparations included 22 varieties, some advertised specifically "to make childbirth easy" and others being either remedies for "female weakness" or "kidney trouble," or general "cure-alls." The following example of the alluring promises made by the vendors of one nostrum on the list leads to an understanding of the use of patent medicines by pregnant women in a community where prenatal care by a physician is not readily available to mothers and where public-health aid is nonexistent. The misbranded article at the time of investigation by the Bureau of Chemistry bore on its label the following:

For the relief of the suffering incident to childbirth. This is one of the greatest comforts to those expecting to be confined. It is a remedy upon

<sup>23</sup> Notice of Judgment No. 4838, Federal food and drugs act.

<sup>24</sup> Notice of Judgment No. 5271, Federal food and drugs act.

<sup>25</sup> Notice of Judgment No. 4414, Federal food and drugs act.

which confidence can be placed, one that will assist in a safe and quick delivery, and one that shortens the duration of labor. Try it. It is a blessing to suffering women \* \* \* has been used by many of our best physicians and all pronounce it a success, giving relief from the dreadful pains and sufferings of this time. Every woman expecting to become a mother should use it.

The notice of judgment states that—

[The] form of labeling was false, misleading, and deceptive and tended to deceive and mislead the purchaser into the belief that the product contained in the bottles was a drug valuable for the alleviation of the suffering incident to child bearing, whereas, in fact, the bottles contained a liquid consisting essentially of an oil, together with a small amount of soap, and had not the properties claimed for it upon the label.<sup>26</sup>

The continued sale of this article, after its exposure, points to the conclusion that such preparations continue to be marketable, owing to the fact that little publicity is given to their exposé and that the fines imposed upon manufacturers for misbranding are small. In some instances, however, the manufacturer may be obliged to change the formula for his nostrum or to modify his claims for its curative value.

An alcoholic nostrum shipped from Tennessee to Georgia, and used by some of the mothers during their pregnancy, contained 16½ per cent of alcohol, according to the analysis of the United States Bureau of Chemistry. A notice of judgment under the food and drugs act states that misbranding of the article was alleged in the information for the reason that certain statements on the carton, bottle, and accompanying circulars were—

false and fraudulent in that the same were applied to the article knowingly, and in reckless and wanton disregard of their truth or falsity, so as to represent falsely and fraudulently to the purchasers thereof, and create in the minds of purchasers thereof the impression and belief, that it was, in whole or in part, composed of, or contained, ingredients or medicinal agents effective, among other things, as a remedy for all female weaknesses and diseases, in the relief of all hemorrhage from the womb, as a cure for leucorrhea, and for correcting all irregularities peculiar to women, when, in truth and in fact, it was not, in whole or in part, composed of, and did not contain, such ingredients or medicinal agents.<sup>27</sup>

The defendant company entered a plea of guilty to the information and the court imposed a fine of \$75 and costs. Although the judgment of misbranding in this case, secured in 1915, clearly set forth the inefficacy of the product, it was used during the following two years by mothers of the mountain county and was widely advertised in 1918 in the community surveyed by means of an almanac. In this almanac the nostrum is advertised by the testimonial method, its praises being set forth in letters secured by the manufacturer

<sup>26</sup> Notice of Judgment No. 366, Federal food and drugs act.

<sup>27</sup> Notice of Judgment No. 4389, Federal food and drugs act.

from persons claiming benefit. "Read these letters carefully," the almanac advises, and—

you will understand why we place an unqualified guarantee on this great medicine for women's ills. You will understand that we guarantee it because it benefits women. This is our reason why we continue from year to year to guarantee it, but an equally satisfactory reason is that the sales grow larger each year by many thousands of bottles, while the failures do not increase in proportion.

A so-called "quick relief" on the list of patent medicines used by mothers when analyzed by the Federal chemists was found to contain 32 per cent of alcohol, together with Peru balsam, camphor, and red pepper.

The most common remedy used was an alcoholic nostrum widely advertised as a "woman's tonic." Analyses made public by the American Medical Association have shown that aside from alcohol the nostrum contains no potent ingredient in quantities capable of producing any physiologic effects.<sup>28</sup>

One mother showed a box of tablets obtained from a mail-order concern labeled "for diseases of women and the alleviation of the annoyance of pregnancy and the pains of childbearing," which she had taken during pregnancy and liked "because they made me sleep."

The foregoing instances refer only to preparations used by pregnant women and little children; in other instances the use of nostrums for various ailments by all members of the family was additional evidence of the frequency with which the patent medicine bottle found a place on the shelf of the mountain cabin.

### **Teas used for medicinal purposes.**

More time-honored remedies in the highland region are the home-made teas of herbs and roots gathered in the mountains. A list of those named by mothers as used for medicinal purposes included teas made from wild cherry, pinkroot, boneset, white horsemint, spignet, pennyroyal, black snakeroot, ginseng, lady's-slipper, red alder, butterfly root, and many other mountain herbs. For babies with "hives," teas of catnip, dog fennel, ground ivy, and partridge berry (also known as hive vine and squaw vine) were mentioned as remedies. Salves as well as teas were made from herbs, one mother's recipe for a cold and croup salve calling for fever weed, garlic, peach tree, and elder "fried up." Thirty-two mothers had given their babies paragoric and 10 told of the use of whisky as a home remedy for their infants. A combination of 4 drops of asafetida and 4 drops of whisky in a teaspoonful of milk was one remedy given; tincture of lobelia and whisky was used for a baby with intestinal

<sup>28</sup> Cramp, Arthur J.: Nostrums and Quackery. American Medical Association, Chicago, 1921.

trouble; and whisky in breast milk had been fed by a third mother to a baby about 2 months of age.

### Other home treatment for babies.

"Scarifying" is the mothers' designation of a curious practice, similar to the old-fashioned blood-letting, which is sometimes resorted to as a "baby cure" in the mountain county. The impression prevails that the disease known as "bold hives" is caused by "too much blood," hence the treatment described by one mother as follows:

You wash the baby between his shoulders with warm water and soap. Then make three little slits in the shoulder flesh with a razor. Warm a horn and put the large end over the slits in the skin. Put beeswax over the small end and make a very small hole in the wax with a pin and suck up through the hole and close it by pinching the wax together. The horn will stay on until it has drawn about a teaspoonful of blood. Then it will fall off. It is this blood that causes the hives. You can see it's all dark and hard.

The mother of another baby, scarified for hives when he was 3 months old, said that she "washed baby's back, slit it a little, sucked the blood and washed it off." A 1-month-old baby, according to the statement of his mother, was "scarified" every other morning until nine such operations has been performed. Each time from three to five drops of blood were taken. Afterwards the spot was greased and the mother reported that it "healed in no time."

Home treatment of babies in some cases appeared to be based on superstition. A mother whose 4-months-old baby had had colic tried to cure her by "smoking over bran." The mother stated she put bran on the hearth, set it on fire, and held the baby over the smoke. When the treatment failed to cure the baby the mother resorted to the use of patent medicine.

"Dirt tea" was the home remedy given a 7-weeks-old infant suffering from intestinal trouble. The mother prepared the tea by "scraping soot from the back of the chimney, where it was burned, and pouring boiling water on it." Other home remedies given this baby were "drops of all kinds," paregoric, and patent medicine.

## HOUSING AND SANITATION.

Two prevailing types of houses in the mountain county are the pioneer log cabin, often the identical structure fashioned by a forefather, and its successor, the box house, erected since the advent of the sawmill. The latter is usually made of upright undressed boards battened as a protection from the elements. The clapboarded frame cottage of better finish is not so frequent a type, although found on farms near town.

The mountain home site is often one of extreme beauty. If it is located on a "branch," to insure a convenient water supply, the approach in spring is past thickets of blooming dogwood, rhododendron, and laurel which line the stream, and over fields of mountain wild flowers. The homes situated upon the heights have more barren surroundings, but their sites are vantage points commanding imposing vistas of the highland region with its panorama of mountain peaks. The appeal of the picturesque cabin in its attractive setting can not, however, divert attention from its deficiencies. As a rule the homes are overcrowded, dark, and lacking in convenient arrangement and equipment for the housewife.

### Congestion.

The number of occupants in the households visited ranged from 2 to 12, the average being 6 persons per dwelling. This included the immediate family and relatives or others living with them. Nearly three-fourths of the families were occupying small houses of one, two, or three rooms. Sixty-eight families—14 per cent of all visited—were living in houses with but one room. The number of occupants in these houses ranged from 2 to 10 persons, and in half of the households limited to a single room there were 5 or more persons. In the two-room cabins which housed one-fourth of the families, the living room was also a bedroom, with a lean-to for a kitchen, or there was a living-room kitchen with a smaller room adjoining for sleeping purposes. Only 5 per cent of the homes had more than five rooms.

Number. Per cent.			Number. Per cent.		
Total	505	100	Total	505	100
<hr/>			<hr/>		
Houses with—			Houses with—		
1 room	68	14	1 bedroom	194	38
2 rooms	121	24	2 bedrooms	244	48
3 rooms	174	35	3 bedrooms	56	11
4 rooms	74	15	4 bedrooms	9	2
5 rooms	42	8	5 bedrooms	2	1
6 or more rooms	26	5	6 or more bedrooms		

For parents with but one or two young children the small house sufficed; but, because it was not customary to enlarge the home to accommodate the enlarged family, cramped living quarters were common. In a county where timber is plentiful the cause of congestion could not be attributed entirely to economic necessity.

The following examples show conditions in three families of varying sizes, each of which was limited to the one-room house.

A family of four—father, mother, little girl of 4 years, and a baby 9 months old—lived in a one-room frame house situated on a mountain side barren of trees. Although the house was windowless, its interior presented a cozy appearance at twilight. A bright fire blazing in the fireplace lighted up the room. The furnishings included two beds covered with white counterpanes, dresser, table, and tiny cookstove. A fresh "ironing" hung from a line at one side, and in another corner strings of dried corn dangled from the ceiling. Everything was clean. The mother had made for the baby a simple creeping-pen out of a box. (Such a pen is a great advantage, as most cabin floors are rough and "splintery" even if not dirty, and the unscreened fireplaces are a menace to creeping children.)

Father, mother, and four children, the oldest 12 and the youngest a baby of 6 months, lived in another one-room cabin. There were no windows, but two doors were kept open to light the interior when the weather permitted. The room, about 20 feet square, was crowded with three beds and a long table with benches upon each side. There were no other furnishings, the fireplace being used for cooking.

A small log cabin with broad stone chimney stood at the foot of a steep hill and could be reached only by trail, being about  $1\frac{1}{2}$  miles from the road. It was on a farm yielding no produce for marketing and scarcely enough for the family livelihood. On the hills beyond the cabin clearing, a few tall pines spared by the sawmill towered high above a thick new forest growth. Home-made farm implements, sled, primitive harrow, and yoke cluttered the doorway. Occupying the one room of this home were the father, mother, and six children ranging in age from 1 to 13 years. The interior of the cabin was disorderly, a natural consequence when eight people with all their possessions and supplies are crowded into one room.

### Crowded sleeping quarters.

From the standpoint of health the crowding of sleeping quarters was a serious problem. In two-fifths of the homes visited there was but one sleeping room, and it was not unusual to see three or four beds in the same room. From a tabulation of the number of persons in the household according to the number of sleeping rooms was derived the following statement of persons per sleeping room, which gives an index of congestion in all homes included in the study.

Average number of persons per sleeping room.	Number.	Per cent.
Total.....	505	100
1, less than 2.....	33	6
2, less than 3.....	120	24
3, less than 4.....	121	24
4, less than 5.....	99	20
5 and over.....	132	26



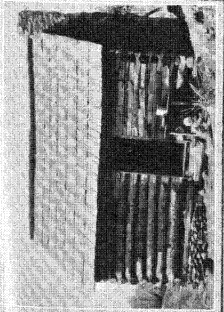
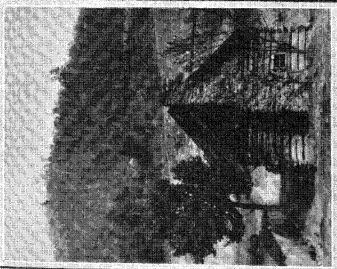
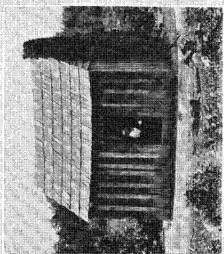
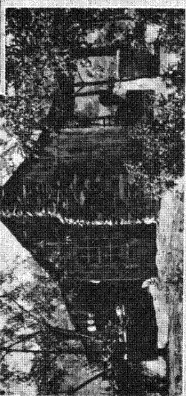
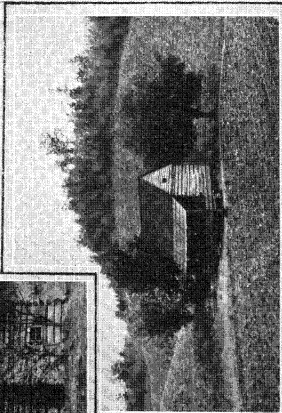


PLATE V.—TYPES OF MOUNTAIN HOUSES.



No family had a spare room, very few a bedroom for each member; and in more than one-fourth of the houses, there were five or more persons per bedroom.

The menace to health from such congested sleeping quarters was increased when there was illness in the family, and the sick member slept in the same room, often in the same bed, with those who were well. In one family of 10 occupying one bedroom the 8 children, including a baby of 4 months, had whooping cough at the same time. During illness it is customary for neighbors to gather at the bedside of the sick person, thus adding to the household congestion. One mother sought for an interview was found with her baby in a neighboring home where a woman lay seriously ill. With her child, she and four other women were crowded about the bedside of the afflicted neighbor in a stifling, windowless room. In another home visited a typhoid fever patient—a boy of 8—lay in bed in the living room surrounded by father, mother, and three men of the neighborhood. In addition to the noise of conversation a telephone in the room rang frequently, for every ring on a rural telephone is heard by each subscriber. The mother consented to be interviewed on the porch, but neither she nor her husband and neighbors seemed to realize that so much confusion was bad for the sick child.

The lack of privacy was another serious consequence of the crowded sleeping quarters for growing children of both sexes. A family of 10, consisting of father and mother, 3 girls aged 17, 13, and 8, 3 boys aged 16, 12, and 10, and 2 younger children, were limited to one bedroom.

In a log cabin with one bedroom and a lean-to kitchen, which housed a family of six, the bedridden grandfather was ill in the same room in which the mother was confined, their beds being in close proximity.

### **Houses without windows.**

The lack of windows in a number of homes proved a defect more serious in lighting than in ventilation, for many houses were of such loose construction that fresh air came in through the crevices. In some of the dark rooms daylight could be seen through the unchinked logs or through gaps between the chimney and siding. Only 15 per cent of the homes were ceiled or plastered, the remainder being boarded, roughly papered, or without any interior finish. Where window frames were provided there was often no glazed sash, the openings being covered with wooden shutters.

### **Attractive features of mountain homes.**

In spite of the frequent defects of insufficient space, light, and equipment, many of the mountain families had succeeded in achiev-

ing genuinely attractive homes. Vines added to the exterior attractiveness of the houses. The crimson rambler, trumpet vine, myrtle, ivy, and fragrant wild honeysuckle trailed over the weatherbeaten logs with softening and beautifying effect. One mountain home visited was covered thick with ivy and had a bed of brilliant tiger lilies in front. The yards were usually bare of grass, but even the poorest cabins seldom lacked a flower garden in which might be found roses, iris, columbine, syringas, the snowball bush, and many other varieties of shrubs and flowers.

An interior with deep fireplace, wooden mantel blackened like ebony by smoke, high soft beds covered with gay quilts or coverlets, splint-bottomed chairs, strings of red corn, "shucky" bean pods, peppers, and herbs hanging from the beams, and the spinning wheel, fallen into disuse but not deposed from its honored nook by the fire, gave an impression of beauty and comfort achieved by the mountain home-maker.

### Household equipment.

House furnishings were simple, sometimes consisting merely of beds, tables, and plain chairs. Families with more complete domestic equipment had in addition chests, bureaus, center tables, clocks, and window shades. Pantries were rare, and unless a loft was available for storage space the reserve food was hung from rafters or sacked and stowed away in convenient corners.

Nearly every house visited was sadly in want of modern conveniences for the farm home. In a list of a dozen such items considered necessities in the rural home of to-day only one—the sewing machine—was found to be a usual article of equipment.

The sink, bathtub, indoor toilet, and other conveniences dependent upon running water, as well as power machinery to lighten such household tasks as churning and washing, have yet to reach the mountain home. In fact, only 25 housewives had water conveniently at hand in the house or on the porch. The spring house, the only means of refrigeration, was often some distance from the kitchen.

Few families had stoves for heating and even the kitchen stove was by no means universal, many housewives cooking in the open fireplaces. Dinner for six was being prepared at the hearth of one family visited. Corn bread was baking in a shallow iron kettle, coals being placed on top of the lid and underneath the kettle. The mother stated that if the kettle was heated well first, the bread baked better than in a stove. She broiled ham in a pan, around which the flames licked, and served a simple but appetizing meal of corn bread, ham, and honey. In many homes provided with cook-stoves the housewife preferred the fireplace for her "kettle of beans" or other food which required time in cooking.

The dearth of labor-saving devices for the mothers in the area studied is emphasized by a comparison between the equipment in their homes and that in rural homes in other sections of the country. Data secured by home-demonstration agents of the United States Department of Agriculture in 1919 for farm homes in the eastern, central, and western sections of the United States permit a comparison.

TABLE IV.—*Household conveniences in mountain and other rural sections.*

Area.	Per cent of rural homes having—						
	Tele- phone.	Sewing machine.	Washing machine.	Screened windows and doors.	Water in kitchen or on porch.	Bathtub.	Sink.
The mountain county.....	3	68	2	6	5	( <sup>1</sup> )	1
Rural areas in other sections <sup>2</sup> ...	72	95	57	96	65	20	60

<sup>1</sup> Less than 1 per cent.

<sup>2</sup> From the Farm Woman's Problems, States Relation Service, U. S. Department of Agriculture.

<sup>3</sup> In kitchen only.

### Lack of toilets.

The general lack of toilets of any kind in the area indicated widespread ignorance of the essential principles of home sanitation. The rural residents of the mountain county, like those in many districts of the rural South, have not learned the dangers of soil pollution. The sanitary survey conducted by the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, 1911-1914, revealed the amazing fact that of a quarter of a million farm homes in 11 Southern States more than half were without privies.<sup>29</sup> Even a larger proportion of homes in the mountain county lacked this essential of sanitation, 85 per cent being without toilets of any kind; and of the privies provided at the remainder of the homes half were of the insanitary, open-back type.

The menace of flies was increased owing to the lack of toilets, the open-back privy, and the disposal of waste water in the yards, yet only 31 homes had adequate screening. Many mothers, however, took the precaution of protecting their sleeping babies from the numerous flies by the use of mosquito netting or cheesecloth thrown over the bed.

### Water supply.

Four out of every five families secured their water supply from springs. The clear, cold spring water is much prized and no thought

<sup>29</sup> Fifth Annual Report, The Rockefeller Sanitary Commission for the Eradication of Hookworm Disease, 1914, pp. 12-13.

is given to the contamination which may result from seepage of polluted water through the soil above, from the direct flow of surface water into the spring, or from dipping soiled utensils into it. Both springs and wells were found in some cases below the house, barnyard, or hogpen, where they were liable to pollution by seepage. As a rule, the springs were not protected from the wash of rain water carrying surface filth, a heightened menace where soil pollution is caused by the lack of toilets.

### **Typhoid fever.**

Without mortality or morbidity statistics for the county, it is impossible to show for any period the fatalities from or the prevalence of diseases attributed to impure water and lack of sanitation. The replies of mothers interviewed concerning previous illnesses in their families indicated a considerable prevalence of typhoid fever in the mountain county, but its extent could not be estimated because many cases reported had not been diagnosed by a physician. The following instances are those of cases diagnosed by a physician:

A few weeks after a mother gave birth to a baby who lived but a short time, three of her daughters, aged 17, 8, and 6, became ill with typhoid. The mother stated the attending physician did not inquire about the water supply, but that they had had trouble with their well. "It was in a low place and got to filling up with water. It hadn't been cleaned for two years. We cleaned it out three times that summer, but when the fall rains came and there was so much water in the ground, it was a regular flood." The poor water supply caused the family to move to a home where there was a good spring.

Another mother, questioned about the source of the water supply at the time when one of her children had typhoid, stated that they used water from both a spring and a well. "The spring was muddy and full of leaves," she said, "and the well was full of old tin cans and the water was milky."

Water for another family was secured from a spring used by seven families. The privy at this home jutted over a small stream at a point where it was crossed by a footlog leading to the barn. The mother stated that her 9-year-old son contracted typhoid two months before her baby was born. She did not know whether he was infected at home or elsewhere, but said that shortly before he was taken sick he accompanied her on a visit to a neighboring home where there were six cases of the disease.

## STATE HEALTH ACTIVITIES RELATING TO MATERNITY AND INFANCY.

Rapid strides in public-health achievement in Georgia since the study covered by this report was made are denoted by a survey of the work accomplished by the State up to the close of 1921. Noteworthy results, especially in the protection of maternity and infancy, were obtained through legislation and an exceptionally vigorous and effective administration of the State board of health.

### Birth and death registration.

At the time of the Children's Bureau survey, records of vital statistics for the mountain county were nonexistent, a situation which obtained generally for the rural areas of Georgia. Although an act embodying the provisions of the model law for the registration of births and deaths passed the Georgia Legislature in 1914, the finances for its enforcement were not provided until five years thereafter. Therefore, the bureau of vital statistics in the State department of health was not organized until January 1, 1919. With the creation of the bureau, plans for the enforcement of registration in Georgia were at once pushed forward. Justices of the peace and city clerks who act as local registrars were instructed in the duties of registration. Every physician and undertaker in the State was called upon for aid and was furnished with the necessary registration blanks.

Early returns of certificates indicated that about one-fourth were incorrect or incomplete, owing to unfamiliarity with the law. In a systematic endeavor to make registration accurate as well as complete, the State bureau demanded corrections by physicians, undertakers, and registrars, with a resulting improvement in the character of the work. Prosecutions of those who failed to obey the law followed. Therefore, although the first year of enforcement was of necessity devoted mainly to organization, by the close of the year every county in Georgia was responding to the law.

Georgia was then one of the three States east of the Mississippi River that had not yet gained admission to the United States death-registration area. Improvement in registration continued throughout 1920 and 1921; in the latter year the registration of deaths was accepted by the United State Bureau of the Census as at least 90 per cent complete, and Georgia was admitted to the death-registration area January 1, 1922.

Birth registration, in Georgia as elsewhere, is more difficult of enforcement than the registration of deaths. Many States with satisfactory legislation of long standing have failed to bring birth registration up to the standard required for admission to the birth-registration area. With a background of only three years' work for enforcement, birth registration in Georgia is not yet sufficiently complete to warrant admission to the area. The bureau of vital statistics is working earnestly to perfect birth registration, and if the same progress which has resulted in effective death registration is maintained, admission to the birth-registration area will not be long delayed.

### **Mortality statistics.**

In addition to its active campaign for registration, the bureau of vital statistics has made some analyses of the data secured from the death certificates. Thus, for the first time in the history of Georgia, statistics are available whereby the State can gauge the extent and causes of its mortality. The classification of deaths in 1920 by cause shows a significant comparison between mortality from certain causes affecting infants only and mortality from important causes affecting persons of all ages. Influenza, tuberculosis, and pneumonia were the diseases which caused the largest numbers of deaths in Georgia in 1920, named in the order of importance. Yet among infants under 2 years the deaths from diarrhea and enteritis combined with the deaths from causes peculiar to early infancy exceeded in number the deaths from any of the leading causes. While in such a classification the deaths from the specified diseases affecting infants rank first in Georgia, in the death-registration area in 1920 they ranked fourth, being exceeded in number by deaths from organic diseases of the heart, pneumonia, or tuberculosis. The infant mortality rate in Georgia for the same year, based upon registered births and infant deaths, showed that of every 1,000 live-born infants, both white and colored, 90 failed to survive their first year. This rate is higher than that of 86 for the entire birth-registration area in 1920. It must be remembered, however, that the rate may give an overstatement of infant mortality due to less complete registration of births than of deaths.

Another benefit obtained through the enforcement of the registration law is that relating to the practice of midwifery. While midwives are not under State supervision in Georgia, under the registration law State control is exercised to the extent that all midwives must register with the local registrar and must report births within 10 days. In addition, the law for the prevention of blindness enacted by the Georgia Legislature in 1918 requires the midwife as



well as the physician to use silver nitrate solution in the eyes of a newborn child.

### **Division of child hygiene.**

Further recognition of the needs of mothers and children in Georgia came with the organization of a division of child hygiene in the State department of health in 1920.

"We believe that child hygiene is fundamentally the most important branch of public-health work," writes the secretary of the State board of health in his annual report for that year.

"The division has as its object, (1) proper prenatal care of the child, (2) proper post-partum care of the mother and child, (3) registration of the child's birth, (4) proper care of the infant and preschool age child, (5) a physical examination and follow-up work for every school child in Georgia.

"The child-hygiene work will eventually be carried on by the county commissioners of health, who are full-time health officers, but who number only 20 at the present time. The problem is at present, therefore, a double-fold one, (1) presenting the work to the county commissioners of health, (2) the more difficult one of getting the work across in those counties that have no health organization. It is an interesting commentary, by the way, that commissioners of health are, as a whole, conversant with problems of water supply, sewage disposal, epidemic control, venereal diseases, etc., but know very little about child hygiene or the organization of this work; and, what is a sadder reflection, the usual medical school has little in its curriculum to supply the need."

Briefly summarized, the activities of the child-hygiene division in 1921 included physical examinations of 59,213 school children, with correction of defects in some 5,000 cases; the operation of 36 children's health centers in 20 counties and 39 throat, nose, and dental clinics in 27 counties; a series of lectures on child hygiene at 84 community centers throughout the State; and the distribution of nearly 150,000 pieces of literature relating to maternal and child welfare.

The educational literature issued by the child-hygiene division includes publications in three series—the prenatal, the preschool, and the school child. Among the publications in the prenatal series are eight lessons to midwives. Each lesson is written in simple language and printed on a separate sheet, the essential instructions for procedure before, at, and after the baby's birth being given step by step. In the preschool series come the "Georgia Baby Book" on infant care and diet slips "to be tacked above the kitchen table" for ready reference as to the proper feeding of children at various

ages up to the sixth year. Also included in this series are outlines on breast feeding, milk, and the summer care of infants to prevent gastrointestinal diseases, prepared by the Georgia Pediatrics Association for the division of child hygiene. In the series for the school child are pamphlets on physical examinations, weight and nutrition, the school clinic, and score and record cards.

Much has already been accomplished by the young division, and broadened activities are planned as the work develops. These plans call for a greater emphasis on prenatal work, especially needed in the rural districts of Georgia.

### **County health organization.**

County organization for health work is included in the discussion of measures relating to maternity and infancy because of its important bearing upon improvement in rural conditions and because the State health board proposes to have the county unit, when perfected, carry on the rural work for child hygiene. The Ellis health law, an act of 1914 providing for organized county boards of health and for full-time county commissioners of health under the supervision of the State board, becomes effective in each county of Georgia only after the recommendation of two successive grand juries. Its operation then hinges upon provision in the county budget for maintenance. Of Georgia's 160 counties, 33 have had the necessary recommendations by the grand jury, but in 1921 only 18 counties were operating under the law with full-time health commissioners. Twelve counties had adopted the law but were not yet prepared to carry it out, and three others had discontinued its operation. As would be expected, the organized counties are the progressive, accessible, and well-populated ones, each having at least one city of considerable size. Such counties are the ones best equipped to finance the law. The isolated and less prosperous counties, most in need of its provisions, are slower to respond.

Without discussion of the more general activities of the State board of health, its progress from 1918 to 1921 is best indicated by a comparison of activities in the two years. Prior to and including 1918, the work of the board was confined chiefly to the laboratory. In 1921 its organization included the following divisions: Laboratories, sanitary engineering and water analysis, vital statistics, communicable diseases, venereal disease control, child hygiene, and county health work.

### **Public-health nursing.**

Public-health nursing service in Georgia is not fostered by State legislation, and is not organized under the State department of health, although in 1921 seven counties operating under the Ellis

Health Law had public-health nurses attached to the county organization under State supervision. The public-health nursing service in Georgia is essentially urban. Atlanta, Savannah, Augusta, Macon, and Columbus, all cities of more than 25,000 population, have nursing forces. Nine additional counties had one public-health nurse each in 1921; and in six of these, also—Clarke, Dougherty, Floyd, Glynn, Troup, and Ware—the work may be classed as chiefly urban, as there are cities in each between 10,000 and 25,000 in population. Three counties rural in make-up, Cobb, Seminole, and Colquitt, maintained public-health nurses in 1921. In the case of Seminole, a new county established on January 1, 1921, provision was made for a public-health nurse under the act establishing the county.

The first part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present. The author then proceeds to discuss the various factors that have shaped the development of the United States, including the role of the government, the influence of the economy, and the impact of the culture. The paper concludes by emphasizing the need for a continued study of the history of the United States in order to ensure a bright future for the nation.

The second part of the paper discusses the importance of the study of the history of the United States. It is argued that a knowledge of the past is essential for a full understanding of the present. The author then proceeds to discuss the various factors that have shaped the development of the United States, including the role of the government, the influence of the economy, and the impact of the culture. The paper concludes by emphasizing the need for a continued study of the history of the United States in order to ensure a bright future for the nation.

## SUMMARY.

The findings of the survey of the mountain county in Georgia are in general accordance with those of surveys made by the Children's Bureau in other rural sections of the United States, in that they clearly indicate the need for more adequate provision for the protection of maternity and infancy. In the mountain county the difficulties and needs of mother and child were intensified by the rugged topography and consequent isolation, retardation of development, and lack of good roads.

The families were made up exclusively of native-born white persons of native parentage, many of whom were living under pioneer conditions. A résumé of the findings shows the following outstanding features in regard to maternity and infant care:

Facilities for medical care in the county were meager. There was no hospital within its borders, and the number of physicians, in proportion to population, was much smaller than the average for the United States. Difficulties of travel and lack of telephone service added to the inaccessibility of medical aid. A striking illustration of the situation was seen in the fact that no physician was reported in attendance at the deaths of more than two-thirds of the babies in the group studied who died in their first year. In some measure lack of medical care was caused by failure to recognize its need, as in the cases of the large number of mothers who sought no prenatal supervision.

A high birth rate was indicated by the frequent childbearing of the mothers interviewed. During their last pregnancy, more than four-fifths of these mothers had had no prenatal care and the care received by the remainder was wholly inadequate. Among the 505 mothers were 89 bearing their first babies, and of these only 7 had medical advice prior to confinement. Physicians attended two-thirds of the mothers at childbirth, but in more than 10 per cent of these cases did not arrive until after delivery. More than one-fourth of the mothers were attended by midwives, and 29 gave birth to their babies without the aid of either physician or midwife.

The practice of midwifery was not regulated by the State, and the mountain midwives interviewed were ignorant of the measures of cleanliness and asepsis required in obstetrical care. Their practice was dangerous for the further reason that they fostered super-

stitious and primitive customs. Medical attention during the lying-in period was not customary, and more than three-fourths of the mothers attended by physicians at confinement received no postnatal calls. None of the mothers had trained nursing care, and they depended largely upon members of the household and neighbors for both nursing care and help with the housework after the baby's birth.

The work of the mountain women was arduous, and they had no regular domestic help. Large families, the care of children, and a wide range of duties made heavy housework; and in addition the majority of mothers performed various farm chores. Half of them also reported working in the field either during pregnancy or shortly after the birth of the baby. As the result of onerous duties and lack of help, many mothers were at work before they had fully regained their strength after childbirth. In some instances heavy tasks performed were reported as the causes of miscarriage.

Lack of schools, and housework or field labor in girlhood, were responsible for the high percentage of illiteracy found among mothers. One-fifth could neither read nor write and many others, reported as literate, had learned but the barest rudiments during a few months at school. For this reason, printed advice on infant care could not be profited by and only 17 per cent of the mothers reported printed matter as a source of instruction on infant care. This was a serious handicap where neither the physician's advice nor the valuable and practical demonstrations of the public-health nurse were available.

The absence and need of scientific instruction in infant feeding were marked. While breast feeding was universal, the custom of giving solid food and family diet too soon counteracted the full benefits of nursing, and again the mothers nursed their babies beyond the period considered desirable.

Physical examinations given to a group of town and country children at the child-health conferences held in the county following the survey showed that although the children were average or above in size, more than three-fifths had physical defects. Defects of skin and teeth were the most prevalent. The diseases most commonly reported by mothers as affecting the babies born during the selected period were those of the digestive tract. Among older children communicable diseases had been the most frequent cause of illness.

About half of all the mothers reported losses during their maternal histories, from miscarriages, stillbirths, or infant deaths. The miscarriage rate was the highest found in any of the rural studies of the Children's Bureau, and the stillbirth rate was exceeded by that for only one other rural area studied.

Losses in early infancy among the babies born during the second year of the study point to a high mortality due to natal and prenatal conditions. Although general comparisons of infant mortality in city and country indicate somewhat lower rates for the rural babies when the entire first year is considered, this is not the case if the comparison is limited to the first month of life, when deaths are known to be in a large part due to causes related to pregnancy and confinement. In the mountain county the death rate under one month was considerably higher than that for white babies in New York City in 1919, and almost three times as great as the rate, in 1918, shown for a group of New York babies whose mothers received instruction and care through the prenatal nursing service of the New York City Bureau of Child Hygiene.

Nearly one-half of the babies under 2 years of age had been given patent medicines, and more than one-fifth of the mothers had used such preparations during their last pregnancy. A number of the remedies used had been judged misbranded under the Federal food and drugs act and analyses of their contents indicated they were either worthless or harmful.

The typical mountain home, while picturesque, was unsatisfactory in size and convenience. The crowding of sleeping quarters was the most serious defect of housing. In more than one-fourth of the homes there were five or more persons per bedroom. The lack of convenient equipment for the housewife was evident in nearly every home visited; and in a list of a dozen modern conveniences which are generally considered necessities in the rural home of to-day, only one—the sewing machine—was frequently found. Telephones, screens, sinks, and a convenient water supply were conspicuously wanting. The essential principles of home sanitation were not understood, and 85 per cent of the families were without toilets of any kind. The source of water supply, usually a spring, was not as a rule properly protected from pollution. Records of illness in the families studied indicated a considerable prevalence of typhoid fever, and in some instances contamination of the water supply was reported as coincident with cases of the disease.

Birth and death registration was wholly lacking in the county at the time of the survey, due to nonenforcement of the State law for the registration of vital statistics. This condition has subsequently been corrected by state-wide enforcement of registration. A survey of State health activities up to the close of 1921 shows marked progress in Georgia in the promotion of measures of protection for maternity and infancy. The State has been admitted to the United States death-registration area and registration of births is rapidly being perfected to meet the requirements for admission to

the birth-registration area. A division of child hygiene organized in the State board of health has developed a well-rounded program for the conservation of the health of mother and child. State legislation for the prevention of blindness was enacted in 1918. County organization for health work, provided for by legislation in 1914, has developed slowly. Its adoption in each county depends first upon recommendation by two successive grand juries and then upon financial provision in the county budget. This legislation was not operative in the county surveyed nor had it been adopted at the close of 1921. The county was therefore without the services of a full-time health commissioner and did not benefit from the public-health work dependent upon county organization.

Public-health nursing service in Georgia is not fostered by State legislation or organization under the State department of health. In the larger cities nursing forces were maintained in 1921, but only a few of the essentially rural counties had provisions for a public-health nurse. These did not include the mountain county studied.



## CONCLUSIONS.

While the province of this report is confined to the problems confronting mothers in bearing and rearing their children, the fundamental needs of the people as a whole in the more remote sections of the Southern highlands can not be disassociated from this more specific phase of family life.

"The mountain people are to be regarded as a great social group of families somewhat isolated and retarded in the development and change which have visited their fellow countrymen in other parts of the land. Whatever are the needs of rural communities anywhere are the needs of the mountain region in still greater degree," writes the president of a mountain college in a symposium on the needs of white people in the uplands of the South collected by the Conference of Southern Mountain Workers. Further expressions of opinion to the conference by churchmen, educators, physicians, and social workers present a composite plea for education in its broadest sense, good roads, development of agricultural resources by scientific cultivation of crops suited to soil and climate, and preventive and efficient public-health work.

The highlanders are known to be a steady, self-reliant, honest people with great native ability, who will ultimately conquer the conditions which have deprived them of many of the opportunities of life. While, with their economic and social development, improved living conditions will come, the pressing problems affecting maternity and infancy disclosed for the area surveyed point to urgent need for immediate relief.

A rural public-health nursing service seems to offer the most immediate and tangible solution of the problem. The rapid development and success of public-health nursing in many parts of the country has carried it beyond the experimental stage. Nursing services maintained in many communities by private agencies have been taken over as a public obligation, and a number of States are organizing public-health nursing service in their State departments of health.<sup>30</sup> A further stimulus to the movement is now offered by the financial aid available through the Federal act for the promotion of the welfare and hygiene of maternity and infancy. Financial provision for public-health nursing service in the county sur-

---

<sup>30</sup> An Analysis of Present State Recognition of Public Health Nursing. Reprinted from the Public Health Nurse, Oct., 1920.

veyed, as well as in other mountain counties, will be forthcoming when the public is convinced of the need and value of such service. The findings of the survey seem convincing proof of the need of the public-health nurse to teach the mountain mothers the hygiene of pregnancy and the principles of infant and child hygiene. Because of isolation and illiteracy it is especially important that instruction be brought to the mother in her home. In the home visits the nurse will advise the pregnant mother about daily details of care to avoid discomfort and disability, she will see that regular urinalyses are made, watch for symptoms of complications, help to arrange household affairs for the lying-in period, and convince the mother and her husband of the necessity for good obstetrical service.

Instruction by the nurse on child care, with emphasis upon proper methods of infant feeding, is especially needed in the area studied. The earnest efforts of many mothers to do their best for their children are unavailing because they do not understand the needs of the growing child. The nurse may also help the mother with practical suggestions for adjustments that will lighten her work and improve the household management.

Of the actual saving of life and improvement of health and home conditions through a public-health nursing service, no better illustration can be given than the results effected by the prenatal nursing service of the New York City Bureau of Child Hygiene, the director of which states:

With a more extended and, if possible, a general application of prenatal instruction to mothers of the city, who stand in need of such care, the bureau of child hygiene is convinced that there would result a lower infant mortality rate, especially during the first month of life, fewer deaths from congenital diseases, fewer premature and stillbirths, fewer accidents to mother and child, fewer deaths of mothers, fewer cases of sore eyes, better home conditions, increased maternal nursing, fewer deliveries by midwives, increased birth registration, better care of babies, or, to summarize—better mothers, better babies and better homes.<sup>21</sup>

While rural public-health nursing is regarded as the most feasible initial step toward the betterment of conditions affecting maternity and infancy in the mountain county, other important needs include hospital service which would provide beds for maternity cases; medical care available to every home in the area; a full-time county commissioner of health; and regulation of the practice of midwifery.

---

<sup>21</sup> Baker, Josephine S., M. D., and Sobel, Jacob, M. D.: Control of Infant Morbidity and Mortality in New York City. Monthly Bulletin of the Department of Health, City of New York, October, 1921, p. 233.

12  
U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# JUVENILE-COURT STANDARDS

REPORT OF THE COMMITTEE APPOINTED BY  
THE CHILDREN'S BUREAU, AUGUST, 1921, TO  
FORMULATE JUVENILE-COURT STANDARDS

ADOPTED BY A CONFERENCE HELD UNDER  
THE AUSPICES OF THE CHILDREN'S BUREAU  
AND THE NATIONAL PROBATION ASSOCIATION

WASHINGTON, D. C., MAY 18, 1923



Bureau Publication No. 121



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923



## CONTENTS.

	Page.
Foreword.....	v
I. The court.....	1-2
A. Court given jurisdiction.....	1
B. Nature of proceeding.....	1
C. Extent of jurisdiction.....	1
D. The judge.....	2
II. Process before hearing.....	2-3
A. Relation between the court and the police department.....	2
B. Reception of complaints and adjustment of cases.....	3
III. Detention.....	3-4
A. Detention policy.....	3
B. Methods of detention.....	4
IV. Study of the case.....	4
V. Hearing.....	5-6
A. Children's cases.....	5
B. Cases involving adults.....	6
C. Use of referee.....	6
VI. Disposition of cases.....	6
VII. Probation and supervision.....	7
VIII. Records.....	10



## FOREWORD.

At the request of a conference on juvenile-court standards held in Milwaukee on June 21-22, 1921, under the auspices of the Children's Bureau and the National Probation Association, a committee was appointed by Julia C. Lathrop, then chief of the Children's Bureau, to work out standards.

The following served as members of the committee:

Judge Charles W. Hoffman, Hamilton County court of domestic relations, Cincinnati, Ohio, *chairman*.

Judge Kathryn Sellers, juvenile court of the District of Columbia.

Judge Henry S. Hulbert, juvenile division of the probate court of Wayne County, Detroit, Mich.

Judge Frederick P. Cabot, juvenile court, Boston, Mass.

Dr. Miriam Van Waters, referee of the juvenile court of Los Angeles County, Calif.

Dr. William Healy, director of the Judge Baker Foundation, Boston.

Dr. V. V. Anderson, associate medical director of the National Committee for Mental Hygiene.

Charles L. Chute, secretary of the National Probation Association.

Herbert C. Parsons, secretary of the Massachusetts Probation Commission.

Bernard Fagan, chief probation officer of the children's court of New York City.

Joseph L. Moss, chief probation officer of the juvenile court, Cook County, Chicago, Ill.

Henry W. Thurston, of the New York School for Social Work, New York City.

Ralph S. Barrow, State superintendent of the Alabama Children's Aid Society.

*Secretary:* Emma O. Lundberg, Children's Bureau, United States Department of Labor.

This committee has been at work for two years. It has met a number of times, and in January, 1923, held a two-day session in Washington, at which a tentative draft of standards was prepared. This draft was mimeographed and sent by the Children's Bureau to more than 200 persons, including judges, probation officers, officers of child-caring agencies, and others interested in juvenile-court work. A considerable proportion of those to whom the draft was sent made

specific suggestions, which were carefully considered at meetings of the committee in May of 1923. The members of the committee were not agreed on all points, but each statement represents the prevailing opinion as expressed in the committee meetings and in suggestions received.

The committee presented a preliminary report to a second conference held in Providence in June, 1922, and a final report to a third conference held in Washington on May 18, 1923, both under the auspices of the National Probation Association and the Children's Bureau. After a free discussion in this conference, and the adoption of certain amendments, the report was approved in the form in which it is here given.

The fundamental principles underlying the standards might be summarized as follows: (1) That the court dealing with children should be clothed with broad jurisdiction, embracing all classes of cases in which a child is in need of the protection of the State, whether the legal action is in the name of the child or of an adult who fails in his obligations toward the child; (2) that the court should have a scientific understanding of each child; (3) that treatment should be adapted to individual needs; and (4) that there should be a presumption in favor of keeping the child in his own home and his own community, except when adequate investigation shows this not to be in the best interest of the child.

In drafting laws based on these recommendations consideration must, of course, be given to provisions of State constitutions, existing court systems, and related laws which it may be necessary to modify if the standards are to be fully realized.

GRACE ABBOTT.



# COMMITTEE REPORT

ON

## JUVENILE-COURT STANDARDS.

---

### I. THE COURT.

#### A. COURT GIVEN JURISDICTION.

1. There should be available to every community a court equipped to deal with children's cases.

2. The laws of each State and local conditions determine whether the juvenile court should be an independent court or a branch of a court, and in what court system it should be placed. In order that the court may serve rural as well as urban population, it is usually desirable that the county should be the unit of jurisdiction.

3. The juvenile court should be a court of superior jurisdiction and a court of record. The disposition of a child in the juvenile court, or any evidence given in a juvenile court proceeding, should not be lawful evidence against the child in any civil, criminal, or other cause or proceeding in any other court.

#### B. NATURE OF PROCEEDING.

In children's cases the proceeding should be chancery or equity, and not criminal, in nature. The juvenile court should, however, be vested with criminal jurisdiction in adult cases such as contributing to delinquency and dependency of children.

#### . EXTENT OF JURISDICTION.

1. The juvenile court should be vested with exclusive jurisdiction over the following classes of cases:

(a) Children alleged to have violated laws or ordinances of the State or of any subdivision thereof, or children whose conduct or associations are alleged to have rendered them in need of the care and protection of the State. The juvenile court should not have the power to waive jurisdiction and certify cases for trial in another court.

(b) Children whose custody is to be determined by reason of their being in need of protection and supervision, homeless, abandoned, destitute, without proper parental care or guardianship, neglected or cruelly treated, or in surroundings dangerous to morals, health, or general welfare.

(c) Adoption cases.

(d) Children in need of protection or custodial care by reason of mental defect or disorder.

(e) Violations of school-attendance laws beyond the provisions for control by school administration.

(f) Contributing to delinquency or dependency. A finding of delinquency or dependency of the child should not be necessary to adjudication. Action should not be limited to parents or guardians in cases of delinquency.

(g) Nonsupport or desertion of minor children.

(h) The determination of paternity and the support of children born out of wedlock.

2. The age limit under which the court may obtain jurisdiction in children's cases should be not lower than 18 years. Marriage of the child should not terminate jurisdiction. Jurisdiction once obtained should continue until 21 years of age unless the case is sooner dismissed or passes out of the jurisdiction of the court.

#### **D. THE JUDGE.**

1. The judge should be chosen because of his special qualifications for juvenile-court work. He should have legal training, acquaintance with social problems, and understanding of child psychology.

2. The tenure of office should be sufficiently long to warrant special preparatory studies and the development of special interest in juvenile work, preferably not less than six years.

3. The judge should be able to devote such time to juvenile work as is necessary to keep detention at a minimum, to hear each case carefully and thoroughly, and to give general direction to the work of the court.

### **II. PROCESS BEFORE HEARING.**

#### **A. RELATION BETWEEN THE COURT AND THE POLICE DEPARTMENT.**

1. The jurisdiction of the court should begin as soon as petition is filed or as soon as a child is taken into custody or placed in charge of an officer of the court. Whenever a child is taken into custody the parents or the person with whom the child resides should be notified at once by the police officer or other person holding such custody. The responsibility for such notice should rest with the court.

2. A child taken into custody should immediately be placed in the care of an officer of the juvenile court, and only if necessary taken to a place of detention for juveniles.

3. The police and peace officers should be required to work in close cooperation with the juvenile court in the handling of juvenile cases, and should be given a clear understanding of the difference between the procedure in children's cases and that in cases of adult offenders.

4. The police should not attempt to handle unofficially cases of juvenile delinquency after the child has been taken into custody. Police authorities should not be empowered to place children on unofficial probation without referring them to the court.

5. The police should not be authorized nor should they have the power to hold children in a station house. When the child is taken to a place of detention for juveniles, the authority of the police should cease except for giving information as to the cause of the child's arrest and filing a formal petition or complaint.

6. From the moment a child is taken into custody he should be sheltered to the greatest possible extent from public observation and from conditions that tend to mark him as an offender. Transportation in a police van, escort by a police officer in uniform, and any visible physical restraint are objectionable and should be avoided. Transportation of girls to a place of detention or elsewhere should be by women officers.

7. With rare exceptions no collateral, bail, or appearance bond should be required in children's cases.

## **B. RECEPTION OF COMPLAINTS AND ADJUSTMENT OF CASES.**

1. The judge, or a probation officer designated by him, should examine all complaints and after adequate investigation determine whether a petition should be filed or other formal action should be taken. It should be the duty of the court to bring about adjustment of all cases without such formal action whenever feasible.

2. Supervision should be exercised in cases handled informally when it is desirable thus to safeguard the child or keep in touch with developments.

3. The judge should exercise general supervision over all the work of the court, even though he is not able to give individual attention to all cases.

## **III. DETENTION.**

### **A. DETENTION POLICY.**

1. The number of children detained and the length of detention should be kept at a minimum, and so far as possible those who must be detained should be provided for in private boarding homes. Detention should be limited to children for whom it is absolutely necessary, such as:

- (a) Children whose home conditions make immediate removal necessary.
- (b) Children who are beyond the control of their parents or guardians, runaways, and those whose parents can not be relied upon to produce them in court.
- (c) Children who have committed offenses so serious that their release pending the disposition of their cases would endanger public safety.
- (d) Children who must be held as witnesses.

(e) Children whose detention is necessary for purposes of observation and study and treatment by qualified experts.

2. Children should not be detained in jails or police stations.

3. No child should be detained without an order from the court for a longer time than is necessary to obtain such court order, unless the parents consent to detention or unless the parents can not be reached at once and need for detention is indicated, and in these cases decision as to detention should rest with the judge or some one designated by him, usually the chief probation officer.

4. Constant effort is required to keep the period of detention in each case as short as possible. This may be accomplished through frequent hearings, prompt investigation, sufficient court staff to expedite the movement of cases, and adequate facilities for institutional care.

#### **B. METHODS OF DETENTION.**

1. For temporary detention either a public detention home or boarding homes under the supervision of the court should be provided, available to the entire area over which the court has jurisdiction.

2. The essential features of a detention home are the following:

(a) The juvenile court, if not actually operating the detention home, should control its policies and the admission and release of children.

(b) Provision should be made within the home for segregation of sexes and types of children, and for adequate isolation facilities and medical care.

(c) Adequate facilities should be provided for the study of the child's physical and mental health, but except in rare instances, the detention home should not be used primarily for this purpose.

(d) There should be specialized school work for the children detained, and recreational facilities should be provided. The daily program of activities should be full and varied in order that constructive interests may supplant morbid tendencies and undesirable companionships. Opportunity should be given for the exercise of the child's religious duties.

(e) Effective supervision should be maintained at all times.

(f) The detention home should not be used as a disciplinary institution.

#### **IV. STUDY OF THE CASE.**

1. Social investigation should be made in every case, and should be set in motion at the moment of the court's earliest knowledge of the case.

2. The minimum essentials of adequate study of a case of delinquency are: Study of the child himself, including a physical and a mental examination and study of his behavior, developmental history, school career, and religious background; study of his environment, including his family and home conditions; an estimate of the essential causal factors responsible for his behavior; and in the light of this estimate, recommendations for treatment.

3. Psychiatric and psychological study of the child should be made at least in all cases in which the social investigation raises a question of special need for study and should be made before decision concerning treatment, but only by a clinic or examiner properly qualified for such work.

4. The clinic for study of the child should be a separate branch of the court or a separate organization fully available. The personnel required includes a physician trained in psychiatry, a psychologist, and one or more social investigators.

5. The physical examination should be thorough, and all the community facilities for diagnosis and treatment should be utilized. Physical examinations of girls should be by women.

6. For rural communities facilities for study of the child may be provided through the development of centers in urban communities or through traveling clinics under the auspices of State boards or commissions or institutions.

## V. HEARING.

### A. CHILDREN'S CASES.

1. The hearing should be held as soon as proper notice to parents or custodians can be given, and within 48 hours.

2. There should be no publicity in a juvenile-court case. The hearing should be private, with no one present other than those directly concerned in the case. Witnesses should not be permitted in the court room except when testifying. Adequate provision should be made for children awaiting hearing, and they should be protected from publicity and given necessary supervision.

3. One or both parents or the legal guardian of the child should be required to be present.

4. The hearing should be conducted with as little formality as possible, and the formal adherence to the practice and rules of procedure that characterizes the criminal court should be avoided.

5. The purpose of the juvenile court is to prevent the child's being tried and treated as a criminal; therefore, all means should be taken to prevent the child and his parents from forming the conception that the child is being tried for a crime. In the ascertainment of facts the court should always bear in mind the rules of evidence. This

does not imply, however, that in the application of these rules the court must conduct a formal hearing.

6. In all cases there should be a written report of the proceeding, not official in the sense that affidavits and petitions are official but unofficial and private, to be used by the court for the purpose of record and interpretation.

7. In every case the court should explain to the child and parents the nature of the proceeding and the disposition made of the case.

8. Under no circumstances should jury trials be permitted in children's cases. They are inconsistent with both the law and the theory upon which children's codes are founded.

9. Children should not be present at the hearing of neglect or dependency cases except for the time required for identification, when identification is necessary.

#### **B. CASES INVOLVING ADULTS.**

In cases involving adults, such as cases in which adults are charged with contributing to the delinquency or dependency of children, the usual court procedure in criminal cases is necessary, as the defendant is entitled to all the safeguards that the law and Constitution throw around him. In the trial of these cases children who are involved should be protected to the extent that they should not appear in the court room except for the purpose of testifying, and while in the court room should be accompanied by a probation officer.

#### **C. USE OF REFEREE.**

1. It is desirable that girls' cases should be heard by a properly qualified woman referee.

2. Where the area of jurisdiction is so large that the judge can not attend promptly to cases in all sections, the court should utilize properly qualified referees.

3. In all cases heard by referees the judge should pass on findings and recommendations and review all dispositions. The judge should have general oversight of policies and each part of the district should be given a fair proportion of his time.

### **VI. DISPOSITION OF CASES.**

1. Sufficient resources of various types should be available for the supervision of children in their own homes, and for the care in family homes or in institutions of those who can not remain with their own families, so that in disposing of each case the court may fit the treatment to the needs of the child.

2. Institutional care should be utilized only when careful study that includes a knowledge of the needs and possibilities of the individual clearly indicates the necessity for it, or when repeated attempts to adjust the child to home life in the community have failed.

3. Fines should never be imposed in children's cases. Restitution or reparation should be required only in cases where they seem to have disciplinary value or to instill respect for property rights.

4. A complete copy of the social investigation and reports of physical and mental examinations, and a summary of the work done by the court on the case, should accompany the order of commitment to an agency or institution. These records should be unofficial and private.

5. Children placed under the care of private agencies or institutions should remain under the jurisdiction of the court, and there should be close cooperation between the court and the agency or institution. The court should have the power to require reports concerning the progress of the child and to visit agencies and institutions to which children are committed. All private agencies and institutions receiving children from the court should be subject to State supervision.

6. Administrative work such as placing dependent or neglected children in family homes should not be undertaken by the court itself, unless suitable agencies are not or can not be made available for this type of service.

7. The court should be authorized to order the parents of children committed to the care of agencies or institutions to contribute to the support of the children.

8. When its jurisdiction does not include offenses by adults against children, it should be the responsibility of the juvenile court to see that proceedings are initiated in other courts whenever such action is advisable. There should be close cooperation in these cases between the juvenile court, the prosecuting authorities, and the criminal court, and the juvenile court should use all possible means of protecting child witnesses in other courts.

## VII. PROBATION AND SUPERVISION.

1. The probation staff should be appointed by the judge from an eligible list secured by competitive examination, subject to approval by a supervising board or commission.

2. The minimum qualifications of probation officers should be as follows:

- (a) Education: Preferably graduation from college or its equivalent, or from a school of social work.
- (b) Experience: At least one year in case work under supervision.
- (c) Good personality and character; tact, resourcefulness, and sympathy.

3. The compensation of probation officers should be such that the best types of trained service can be secured. The salaries should be comparable with those paid to workers in other fields of social service. Increases should be based on records of service and efficiency.

4. Not more than 50 cases should be under the supervision of one probation officer at any one time. Officers handling girls' cases should be assigned a smaller number.

5. If volunteer service is used, the persons performing such service, or the executive of the organization of volunteers, should be directly responsible to the court.

6. Girls' cases should always be assigned to women officers; cases of boys under 12 years may be assigned to women officers, but all cases of boys 12 years of age and over should be assigned to men.

7. The district system is frequently an economical method of assignment, but fitness of particular officers for special kinds of work must also be taken into account.

8. A definite plan for constructive work, even though it be tentative, should be made and recorded in each case and should be checked up at least monthly in conference with the chief probation officer or other supervisor.

9. A general minimum probation period of from six months to one year is desirable, but exceptions should be allowed on recommendation of the supervisor or chief probation officer. The length of probation in each case should be determined by study of the case, needs disclosed, and progress made.

10. Reporting by a child to a probation officer at regular intervals should be required only if it seems clearly to be for the good of the probationer, and should never be made a substitute for more constructive methods of case work. When rightly safeguarded, reporting gives opportunity for acquaintance with the child, and free conversation regarding his interests and surroundings, and is a means of training in habits of regularity and punctuality.

11. Regular reporting should usually be limited to delinquent boys over 12 years of age, and they should report at a suitable place away from court and approved by the judge or chief probation officer. Mingling of boys reporting should be avoided through using different days in the week and fixing a certain time for each child to report.

12. Except in rare cases, home visits at least once every two weeks are essential to effective supervision, knowledge of the assets and liabilities of the family, and correction of unfavorable conditions.



13. In probation work due consideration should be given to language, racial psychology, and religion.

14. Reconstructive work with the family should be undertaken whenever necessary, either by the probation officer himself or in cooperation with other social agencies. Whenever other agencies can meet particular needs their services should be enlisted. In cases in which two or more agencies are concerned with the same family frequent conferences are necessary for good team work.

15. Special detailed school reports for each child on probation are advisable. The educational authorities should be requested to cooperate through weekly reports, frequent conferences, and other means; but care should be taken to preserve harmony, faith, and good will between the teacher and pupil, the probationer and probation officer.

16. The probation officer should assist and guide children of working age in the choice of a vocation.

17. Whether or not an employer should be informed with reference to the child's delinquency depends on the type of employer. Tact and judgment should be used in protecting the interests of both the employer and the child.

18. Planning for the "spare time" or recreation of probationers is a very important part of a probation officer's functions.

19. In rural communities it is often practicable and desirable to combine probation work with other types of social service. The form of combination and the division of work will vary according to local conditions and needs. The probation officer, however, should not hold other office in relation to the court, nor an office identified with the prosecution of cases, such as clerk of the court, police officer, or sheriff. Reporting of probationers is usually not practicable, and it may be necessary to use volunteer aid to a larger extent than in urban communities. Volunteer workers should be carefully selected and should be under the supervision of a paid officer. Emphasis should be placed on the strict accountability to the court of all officers, paid and unpaid, doing probation work. The officers should be provided with adequate means of transportation.

20. Supervision of the work of probation officers should be exercised by a State commission or board, either specially created or definitely charged with this duty, or by a State supervisory officer. The supervision should be advisory both to the probation officers and the courts as to all features of the service, but with power to require the keeping of prescribed records and to compel periodical reports to the supervisory board or officer.

### VIII. RECORDS.

1. Every juvenile court should have a record system which provides for—

(a) The filing of the necessary legal records.

(b) The filing of social records covering the investigation of the case, the study of the child, and the work done by the officers of the court and the probation staff. These social records should be deemed privileged and confidential records of the court, and should be at all times safeguarded from indiscriminate public inspection.

2. The filing system should be such as to permit ready identification of cases.

3. The records of the social investigation and the study of the child should include all the facts necessary to a constructive plan of treatment.

4. The records of supervision should show the constructive case work planned, attempted, and accomplished, and should give a chronological history of the supervisory work.

5. The court should compile annually statistical information which will show the problems dealt with and the results.

6. In order that it may be possible to compile information covering a period of years and to compare the work of one court with that of others it is essential that uniform terminology and methods of statistical tabulation and presentation of fundamental items be agreed upon. By this means only can significant social data concerning the prevention and treatment of juvenile delinquency and neglect be obtained.



110  
8  
1p

NOV 27 1922

U. S. DEPARTMENT OF LABOR  
JAMES J. DAVIS, Secretary  
CHILDREN'S BUREAU  
GRACE ABBOTT, Chief

# CHILDREN OF PRESCHOOL AGE IN GARY, IND.

PART I. GENERAL CONDITIONS AFFECTING  
CHILD WELFARE

BY  
ELIZABETH HUGHES

PART II. DIET OF THE CHILDREN

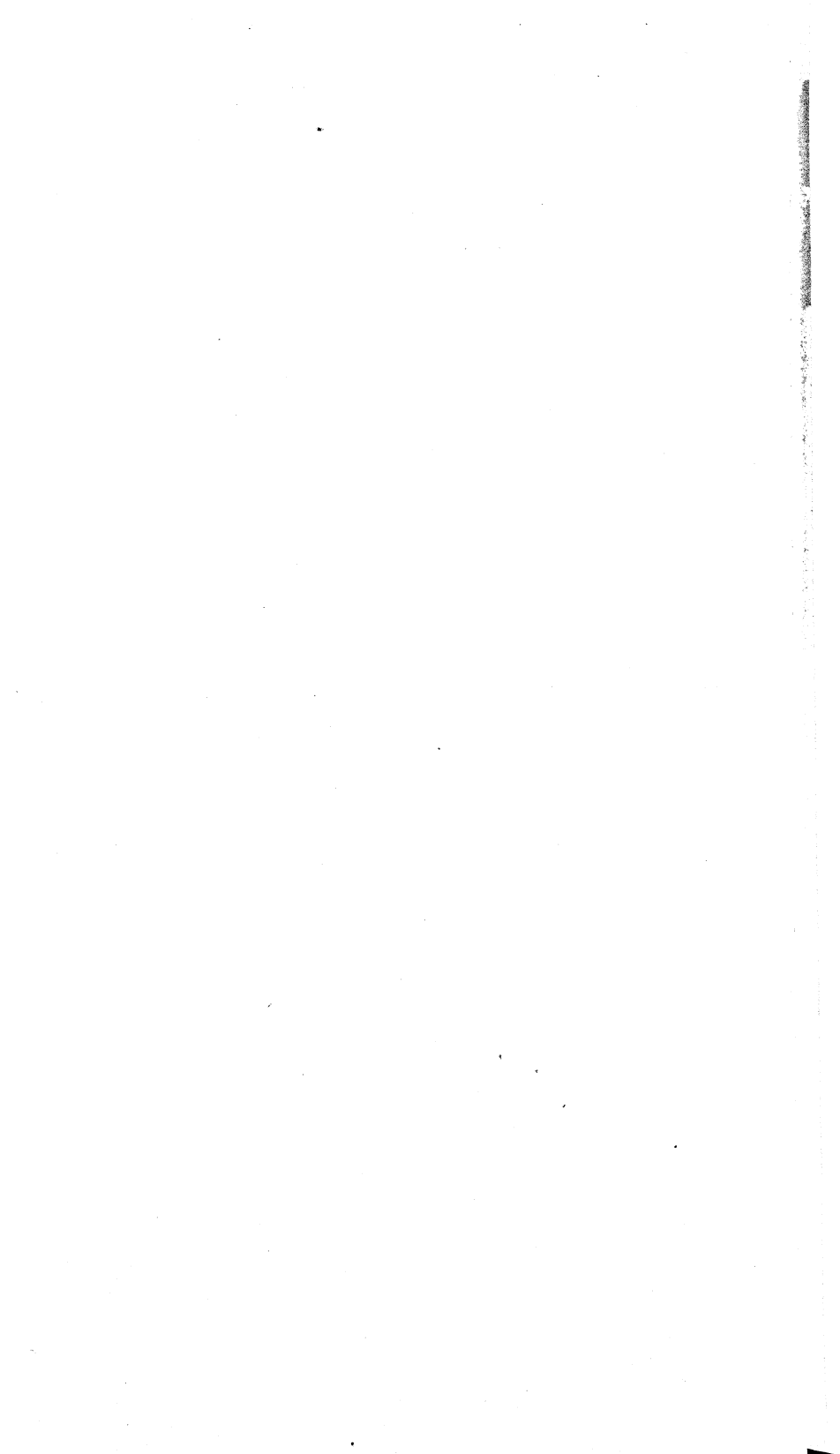
BY  
LYDIA ROBERTS



Bureau Publication No. 122



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1922



U. S. DEPARTMENT OF LABOR  
JAMES J. DAVIS, Secretary  
CHILDREN'S BUREAU  
GRACE ABBOTT, Chief

CHILDREN OF PRESCHOOL  
AGE IN GARY, IND.

PART I. GENERAL CONDITIONS AFFECTING  
CHILD WELFARE

BY  
ELIZABETH HUGHES

PART II. DIET OF THE CHILDREN

BY  
LYDIA ROBERTS



Bureau Publication No. 122



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1922

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT IS NOT POSSIBLE  
TO DISTRIBUTE THIS BULLETIN IN LARGE QUANTITIES  
ADDITIONAL COPIES MAY BE PROCURED FROM  
THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.  
AT  
20 CENTS PER COPY.

# CONTENTS.

---

	Page.
Letter of transmittal.....	ix
Introduction.....	1, 2
Definition.....	1
Reasons for study.....	1
Method.....	2
Part I. General conditions affecting child welfare.....	3-52
Community conditions surrounding child life.....	3
City planning.....	3
Sewer system and water supply.....	4
Civic action and provision.....	4
Home and family conditions surrounding children 2 to 7 years of age.....	7-14
Nationality.....	7-10
Non-English-speaking nationalities.....	8
Ability to speak English.....	9
Years in the United States.....	9
Literacy.....	10
Composition of family.....	11
Duration and stability of family life.....	11
Size of family.....	12
Distribution in city.....	13
Housing.....	15-19
Legislation.....	15
Company housing.....	17
Housing by private enterprise.....	18
The homes of the families included in this inquiry.....	19-29
Type of house.....	19
Tenure and rental.....	21
Sanitary conveniences.....	23
Overcrowding within the home.....	27
Economic conditions.....	30-39
Identity of chief breadwinner.....	31
Annual earnings of chief breadwinner.....	31
Nativity and earnings.....	33
Effect of literacy and ability to speak English upon earnings.....	33
Employment of chief breadwinner.....	33
Nonemployment of chief breadwinner.....	35
Gainful employment of mother.....	36
Mother's earnings.....	38
Separation of mother and child on account of mother's employment.....	38
Household help.....	39
Child care and hygiene.....	40-52
Baths.....	40
Time outdoors.....	41
Sleep.....	43
Regularity of retiring and of rising.....	44
Conditions of night rest.....	46-50
Night clothing.....	46
Ventilation of bedroom.....	46
Number of occupants of child's bedroom.....	47
Number of child's bedfellows.....	49
Dental care.....	50

	Page.
Part II. Diet of the children.....	53-121
Method of study.....	53-56
Securing diet records.....	53
Limitations of material.....	53
Grading of diets.....	54
Precautions taken in applying the grading system.....	56
Distribution of children in the diet grades.....	57-62
Age.....	58
Income.....	59
Nationality.....	60
District of residence.....	61
Use of specified foods.....	63-88
Milk.....	63-68
Use of milk and age of child.....	65
Use of milk and income.....	66
Use of milk and nationality.....	67
Use of milk and district of residence.....	67
Coffee or tea.....	68-73
Relation between use of coffee and use of milk.....	69
Use of coffee and age of child.....	70
Use of coffee and income.....	70
Use of coffee and nationality.....	72
Vegetables and fruits.....	73-76
Use of vegetables and fruits, and nationality.....	75
Use of vegetables and fruits, and income.....	76
Potatoes.....	76-77
Use of potatoes and nationality.....	77
Use of potatoes and income.....	77
Cereals.....	77-79
Use of cereals and nationality.....	78
Use of cereals and income.....	78
Eggs.....	79-80
Use of eggs and nationality.....	79
Use of eggs and income.....	80
Meat.....	81-85
Meat and milk consumption.....	81
Meat and grade of diet.....	82
Use of meat and nationality.....	83
Use of meat and income.....	84
Items of diet lacking.....	85-88
Income and absence of specified items.....	86
Nationality and absence of specified items.....	87
Customs regarding certain dietary practices.....	89-100
Suitability of foods to age of children.....	89-96
Type of evening meal.....	90
Number and regularity of meals.....	91
Eating between meals.....	92
Nationality and eating between meals.....	94
Income and eating between meals.....	94
Inadequate breakfasts.....	96-97
Nationality and inadequate breakfasts.....	96
Income and inadequate breakfasts.....	97
Inadequate lunches.....	98
Summary of customs regarding dietary practices.....	99



# CONTENTS.

v

## Part II. Diet of the children—Continued.

	Page.
Dietary findings considered in relation to physical condition.....	101-112
State of nutrition as indicated by weight according to height.....	101
Carious teeth.....	104
Bony defects of rachitic origin.....	106
Postural defects.....	106
Defective tonsils.....	107
Anemia.....	109
Number of defects.....	111
Summary of relationship between diet and physical condition.....	112
Summary and conclusions of dietary study.....	113-121
Adequacy of diets.....	113
Milk.....	113
Coffee.....	114
Other foods.....	114
Items lacking.....	114
Technique of feeding.....	115
Diet and physical condition.....	115
Nationality.....	116
Income.....	120
General summary and conclusions.....	123-128
Community conditions.....	123
Home conditions and the care of the children.....	124-128
Housing.....	124
Economic status.....	125
Habits of cleanliness.....	125
Sleep.....	125
Diet.....	126
Variations of care according to nativity and race.....	126
Variations of care according to income.....	127
Conclusions.....	128
Appendix A.	
Sample diets for the various diet grades.....	131
Appendix B.	
Schedule used in study.....	132
Index.....	171

## GENERAL TABLES.

	Page.
Table I. Number of years residence of foreign-born mothers in the United States, by nationality of mother.....	139
II. Number of persons in family, by color and nationality of mother....	140
III. Length of residence in dwelling and color and nationality of mother, by family tenure of home.....	141
IV. Amount of monthly rental, by number of rooms in dwelling.....	143
V. Location of water supply, by district of residence.....	144
VI. Sanitary accommodations of dwelling, by district of residence.....	145
VII. Sanitary accommodations of dwelling, by color and nationality of mother.....	146
VIII. Type and location of toilet, by number of families using toilet and district of residence.....	147
IX. Type and location of toilet, by number of families using and color and nativity of mother.....	149
X. Number of rooms in dwelling, by district of residence.....	150
XI. Aggregate annual earnings of family in 1917 and color and nativity of mother, by annual earnings of chief breadwinner.....	151
XII. Annual earnings of chief breadwinner in 1917, by color and nativity of mother.....	151
XIII. Major cause of nonemployment of wage earners in 1917, by duration of chief breadwinner's nonemployment.....	152
XIV. Age of mother at beginning work away from home, by nativity of mother.....	153
XV. Employment of mother in 1917, by color and nationality of mother.	153
XVI. Annual earnings of mother in 1917 and color and nativity of mother, by annual earnings of chief breadwinner.....	154
XVII. Separation of child from mother on account of mother's employment, by caretaker of child during major separation.....	156
XXVIII. Separation of child from mother on account of mother's employment, by annual earnings of chief breadwinner in 1917.....	157
XIX. Type of household help in 1917, by annual earnings of chief breadwinner and color and nativity of mother.....	158
XX. Number of baths per week in winter and in summer, by color and nationality of mother.....	159
XXI. Number of hours rest at night and prevalence of daytime nap, by age of child and color and nativity of mother.....	160
XXII. Hour and regularity of retiring, by color and nationality of mother..	162
XXIII. Hour and regularity of retiring, by annual earnings of chief breadwinner in 1917.....	163
XXIV. Hour and regularity of rising, by age of child.....	164
XXV. Hour and regularity of rising, by color and nationality of mother....	165
XXVI. The wearing of night clothing, by color and nationality of mother..	166
XXVII. Number of hours rest at night, by number of additional occupants of child's bedroom.....	167
XXVIII. Additional occupants of child's bed, by color and nationality of mother.....	168
XXIX. Number and purpose of visits to dentist, by age of child and color and nativity of mother.....	169
XXX. Number of visits to dentist, by age of child and annual earnings of chief breadwinner in 1917.....	170

## CONTENTS.

VII

### ILLUSTRATIONS.

	Facing page.
Map of Gary.....	14
Plate I. The municipal playground.....	6
II. Company houses of the older type.....	6
III. Exceptionally good company houses in Ambridge.....	16
IV. Modern cement houses.....	16
V. Badly constructed and overcrowded tenements.....	18
VI. A one-story frame shack.....	18
VII. Passageway, 3 feet wide, between two frame shacks—six apartments in each.....	19
VIII. A nine-family tenement with yard closet at end of row.....	19
IX. A home in one of the shack colonies.....	20
X. A shack of makeshift construction.....	20
XI. Side view of shack.....	21
XII. A driven well in one of the shack districts.....	21
XIII. Playing in the sand.....	42
XIV. Playing in a passageway.....	42

### CHARTS.

	Page.
Chart I. Distribution of children 2 to 7 years of age, by grade of diet.....	58
II. Per cent of children 2 to 7 years of age with adequate and with inadequate diet, by earnings of chief breadwinner.....	59
III. Per cent of children 2 to 7 years of age with adequate and with inadequate diet, by nationality of mother.....	61
IV. Per cent of children 2 to 7 years of age using tea or coffee, by use of milk as a beverage.....	69
V. Per cent of children 2 to 7 years of age using tea or coffee, by earnings of chief breadwinner.....	71
VI. Per cent of children 2 to 7 years of age using tea or coffee, by nation- ality of mother.....	73
VII. Per cent of children 2 to 7 years of age lacking specified number of items in diet, by earnings of chief breadwinner.....	87
VIII. Per cent of children 2 to 7 years of age with carious teeth, by grade of diet.....	104
IX. Per cent of children 2 to 7 years of age anemic, by grade of diet.....	109
X. Use of certain items of diet in relation to earnings of chief breadwinner; children 2 to 7 years of age.....	120

## APPENDIX

The first of these is the fact that the results of the experiments are in general in good agreement with the theoretical predictions. This is particularly true in the case of the first two experiments, where the results are in good agreement with the theoretical predictions. In the case of the third experiment, the results are in good agreement with the theoretical predictions, but the results of the fourth experiment are in poor agreement with the theoretical predictions. This is due to the fact that the results of the fourth experiment are in poor agreement with the theoretical predictions.

The second of these is the fact that the results of the experiments are in good agreement with the theoretical predictions. This is particularly true in the case of the first two experiments, where the results are in good agreement with the theoretical predictions. In the case of the third experiment, the results are in good agreement with the theoretical predictions, but the results of the fourth experiment are in poor agreement with the theoretical predictions. This is due to the fact that the results of the fourth experiment are in poor agreement with the theoretical predictions.

## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, July 13, 1922.*

SIR: There is transmitted herewith a report on Children of Pre-school Age in Gary, Ind., the last section of the investigation of the welfare of infants and children of preschool age made while Julia C. Lathrop was Chief of the Children's Bureau.

The investigation was directly in charge of Estelle B. Hunter; Elizabeth Hughes, who has written Part I of the report, was supervisor of the local field work; Dr. Lydia Roberts supervised the grading of the diet schedules and has written Part II on diet of the children. The statistical committee of the bureau, Profs. Walter F. Willcox, Irving Fisher, Thomas S. Adams, Robert E. Chaddock, J. W. Glover, and Edith Abbott, assisted in the planning of the inquiry. Dr. Robert M. Woodbury, director of the statistical division, has been responsible for the statistical work in connection with the report.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*

# REPORT OF THE

COMMISSIONER OF THE

LAND OFFICE

FOR THE YEAR 1881

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

1882

W. H. BROWN, COMMISSIONER.

ALBANY, N. Y.

# CHILDREN OF PRESCHOOL AGE IN GARY, IND.

## INTRODUCTION.

### DEFINITION.

In its entirety, the investigation made by the Children's Bureau in Gary, Ind., in 1918 was designed to furnish a picture of the conditions surrounding children prior to their admission to school.<sup>1</sup> The present report will consider the conditions surrounding the children born during the five years 1911 to 1915 who were living in Gary in March, 1918—a group composed primarily of children of preschool age. All children born in 1911 would have reached 6 years of age by the close of 1917 and some would have entered their eighth year early in the year 1918. But by far the greater proportion of the children were under the age of 7 years. The minimum compulsory school age for children not physically or mentally disqualified was in Indiana 7 years; but in Gary, as in many other cities, children might and did enter the first grade when 6 years of age. In view of the short time that the children attending school had been under the school's influence and supervision, it is reasonably accurate to describe the entire group as of preschool age.

### REASONS FOR STUDY.

Only within comparatively recent years has any widespread interest been taken in the child 2 to 7 years of age. Even yet there persists a lack of information and accessible knowledge about the preschool child, his needs, his nurture, and his general well-being. The connection between a child's physical condition and his ability to grasp and assimilate the knowledge which the schools have to impart has been demonstrated repeatedly by medical inspection of school children. Such medical inspection revealed the presence of defects of sight or hearing, of faulty teeth, poor nutrition, adenoids, and enlarged or diseased tonsils, among a considerable proportion of these children. Presently it was observed that a by no means negligible proportion of entrants into the first grade were hampered by physical defects which had fastened upon them during the preschool age. In the light of this discovery rather than in any other way, the preschool child began to secure the attention of his community.

<sup>1</sup> This is the third report dealing with the Gary investigation. The others are: *Infant Mortality: Results of a Field Study in Gary, Ind., Based on Births in One Year*, by Elizabeth Hughes, U. S. Children's Bureau Publication No. 112; and *Physical Status of Preschool Children, Gary, Ind.*, by Anna E. Rude, M. D., U. S. Children's Bureau Publication No. 111.

This study is concerned not with the physical condition of children 2 to 7 years of age, which is treated of in a separate report, but with the habits of life these children were forming, the economic and social conditions surrounding them, and the environmental conditions under which they were living in this representative industrial city.

Part I deals with the general conditions affecting the children and Part II with their diet.

### METHOD.

Few cities know either the exact number or the precise whereabouts of their children 2 to 7 years of age. No public records comparable to birth certificates and no such compulsory records as the public schools keep for children of school age are available in most cities for the preschool child. In order to ascertain how many children born in the years 1911 to 1915 were resident in Gary in March, 1918, a house-to-house canvass of the city was necessary. This canvass was made in February, 1918.

The next step was to visit the mother of each child and with her cooperation secure the information called for by a schedule designed to bring out the conditions surrounding children of the age here considered. Certain definite limitations were imposed by the use of the method of investigation based on a single interview. To have included questions on the schedule which a mother could not reasonably be expected to answer with understanding and comparative ease and accuracy would have been unwise and unprofitable. Consequently no attempt was made to secure certain types of information though its importance was recognized. For example, a rough indication of the diet of children 2 to 7, its adequacy and suitability, could be secured, but to ascertain in calories the actual value of a meal eaten, its sufficiency and fitness for the needs of an individual child, was not possible.

Schedules were obtained for 6,015 children—in 3,991 families—who had been born during the years 1911 to 1915, and were living in Gary in March, 1918. The information which these schedules bore is the basis for the discussion which follows. A general idea of the specific questions asked and the character of knowledge sought may be secured by examining the schedule form used. (See p. 132.)



## **PART I. GENERAL CONDITIONS AFFECTING CHILD WELFARE.**

### **COMMUNITY CONDITIONS SURROUNDING CHILD LIFE.**

To the north of Gary stretches Lake Michigan, an open pathway to the vast ore deposits of the northwest; to the south and east lie great coal fields. Railroads furnish means of communication and of distribution of finished products. Large markets are readily accessible.

Before 1906, the year in which Gary was founded, the southern shore of the lake was bordered by softly rounded hills and knolls of sand, bare save for such sparse vegetation as could win precarious foothold and hard-fought life against the odds of such soil. Gnarled and stunted scrub oak was the most common tree growth, interspersed with a few undersized, weather-beaten pines. The Grand Calumet River following the curve of the lake shore joined itself to Lake Michigan both east and west of what is now Gary. Pools filled some of the many hollows in the land and marshes were not wanting. In fact, a belt of land 10 or 12 miles wide around the southern shore of Lake Michigan had been discovered as early as 1834 to be "of very poor quality and worthless except in places where well-timbered." For a city whose basic industry was to be steel, however, it was a most strategic location and placed no insurmountable obstacles in the way of factory building and city planning. Moreover, it was practically unpeopled. Because of the possibilities the location offered, a steel corporation decided to erect steel mills on it and foster the growth of an industrial city for the workmen of the mills to live in.

#### **City planning.**

The steel company acquired a tract of 20 square miles, in order to make possible the most desirable arrangement for mills, to have space on which allied factories could be constructed, and to assure ground for the city which should house employees. The lake frontage of 7 miles was reserved for the mills. The city, it was purposed, should lie for the most part south of the Grand Calumet—that is to say, about a mile inland from the lake shore.

The high degree of forethought, the scientific planning, the efficient arrangement, the economy, which were evident in the industrial plants north of the Grand Calumet, had not characterized in equal degree the development of the city south of that river. Gary was not an example of excellent city planning; in some of its characteristics it was very much akin to the older industrial cities; it had

embryonic possibilities of difficult transportation and traffic problems; it had potential overcrowded areas, although there was sufficient land for expansion; the lake front, its greatest natural beauty, was almost completely given over to the steel mills and manufactories using steel products, and no park along the shore had been reserved for the recreation of Gary citizens.<sup>1</sup> Streets were laid out on the rectangular or gridiron plan; no provision was made for the diagonal thoroughfares modern city planning advocates as a means of reducing crosstown travel and affording variety. Broadway, the main north and south street, began at the mill gates. Intersecting it at right angles a few blocks from its beginning was Fifth Avenue, the main east and west business street. It was reasonable to expect that the city in its growth would expand chiefly east and west, following the expansion of steel and allied industries along the lake shore. Actually, growth had been quite as extensive along the main north and south street, which is now 6 miles in length.

### **Sewer system and water supply.**

In providing a sewer system and a water system for the city to be created, greater appreciation and forecasting of future needs was shown. A land company—the subsidiary to which the steel corporation had intrusted the development of the portion of its holdings not dedicated to the industry itself—before opening a district for residence, paved streets and laid water and sewer mains in the alleys, so that when extension work was to be done or repairs made streets need not be disturbed. Both sewer and water systems have been so constructed that they can readily be extended to other subdivisions of the city not developed by the land company. Sewers become a part of the city system, and are maintained and repaired by the city. The capacity of the water system is sufficient for a city four times as large as Gary has yet become. The continued excellence of the water is carefully safeguarded and its purity watched by city and State health officials, as well as by the heat, light, and water company to which the town and the steel corporation gave over the function of furnishing the city and mills with water.

### **Civic action and provision.**

Gary was incorporated as a town in 1906; as a city in 1909. There was in 1918 no plan in operation for governing the way in which the city should grow; no attempt had been made to break the monotony of the scheme on which streets had been laid out. As was perhaps natural in so rapidly growing a community, problems came into existence

---

<sup>1</sup> The annexation of the town of Miller in 1919 has made possible the acquisition of a lake-front park and the preservation for pleasure purposes of one of the most interesting and typical parts of the Indiana dune country. To the present citizens, however, not to the original planners of the city, will belong the credit if this outdoor playground is provided for Gary's people.

almost before their possibility had been foreseen. The unskilled immigrant laborer found practically no provision for his housing by the land company, and was dependent upon private speculative enterprise for the house in which he might dwell. Workingmen's houses built for profit proved no better from the standpoint of good housing than is usual. Adequate building regulations were slow to appear; even in 1918 the chief dependence of the city was upon the State housing law passed in 1913, and no satisfactory ordinances covered the construction of one-family houses and enforcement of the obligation of connecting with the city sewer system. In 1910, Tolleston—a town laid out in 1863—became a part of the corporate life of Gary by annexation. In 1918 rural conditions for the most part still prevailed in that section. In another part of the city lingered two shack districts reminiscent of the early pioneer days when building could scarcely hope to keep abreast of the spectacular increase in population. Housing shortage severe enough to hamper the passage and enforcement of regulations governing building and sanitation has existed in Gary practically from the beginning.

The community functions of garbage collection and disposal were receiving regular attention by the end of 1918; street cleaning and inspection of alleys were also looked after. The city was protecting its milk and food supply by an excellent ordinance enforced by one milk and food inspector. A sanitary inspector and his deputy were instructed to be constantly alert to discover conditions within house, yard, business premises, or public halls which might constitute a menace to city health and well-being. Regulations governed the control of contagious disease; the health officer, however, was but a part-time official and had but one nurse to assist him. (Another trained nurse was employed by the city during the summer months of 1918 as a member of the police staff, to do infant welfare work in the South Side.) The municipal laboratory, in charge of the city chemist and bacteriologist, was equipped to render the services required of it.

Provision made by Gary's educational system for educating both the city's youth and its foreign-born adults is pertinent to this report only in respect to kindergarten features, and playgrounds which the small child, as well as the school boy and girl, has opportunity to use.

In 1918 the city had provided but one municipal playground aside from the playgrounds about the schoolhouses. This playground, a fully equipped plot of 5 acres, contained a pool, a diamond, and tennis courts. (Plate I.) The city hoped to provide enough play space throughout its limits so that playgrounds would be easily and safely accessible to children living in every part of the city.

The land company had beautified and given to the city two parks with an aggregate of 25 acres, located in the subdivision first developed. Later a further gift of 12 acres was made by the company, for the special benefit of residents of the South Side and Tolleston. Setting aside and improving land for an additional park was being considered by the municipality at the time the investigation was made.

By annexation and addition, the area within the corporate limits of Gary had increased by 1918 to 31 square miles. In 1917 the population was estimated at 56,000.<sup>2</sup> Inasmuch as no inconsiderable portion of the city's area had remained rural in character, the density of population in the closely built sections was much greater than would have been the case had distribution been more even. Comparatively few large districts, however, were so crowded that children 2 to 7 years of age had altogether inadequate play space.

Following the precedent set by other communities in the United States, Gary had introduced medical inspection into its public schools and had become more or less conscious of the needlessly high rate at which its babies under 1 year of age were dying, especially in the more crowded sections of the city, inhabited largely by the foreign born. Prior to 1918 the child 2 to 7 had received little notice. When in 1918 a city-paid nurse was placed in charge of a welfare station which had been established under the auspices of a settlement in the center of the foreign-born community on the South Side, children of preschool age as well as infants were included among those to whom the station and the nurse ministered. One nurse and one station were altogether inadequate to meet the need, but a beginning had been made.

In short, the community protected child life through safeguarding water and milk supply, regulating in some measure the housing conditions, providing sanitation and health protection, and developing to some extent community resources for healthful outdoor recreation for small children. What the shortcomings of community control and protection were will appear as different phases of life in the homes of children are examined.

---

<sup>2</sup> U. S. Bureau of the Census, Birth Statistics, 1917, p. 24. Washington, 1919. The 1920 census showed a population of 55,378.

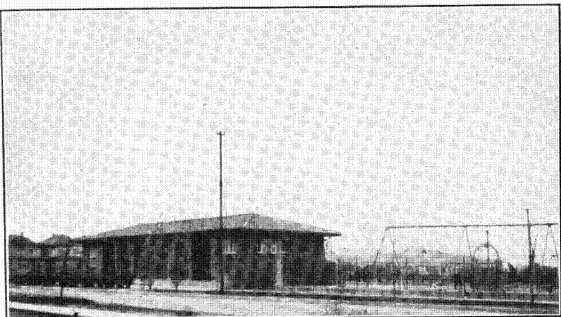


PLATE I.—THE MUNICIPAL PLAYGROUND.



PLATE II.—COMPANY HOUSES OF THE OLDER TYPE.



## HOME AND FAMILY CONDITIONS SURROUNDING CHILDREN 2 TO 7 YEARS OF AGE.

### Nationality.

Gary has had from its beginning a large proportion of citizens of foreign birth. The United States Census of 1910 showed that half the city's population, aside from the 2 per cent which was Negro, was foreign born, and that the largest proportions of this group were Austro-Hungarian, Russian, Italian, and German by birth.<sup>3</sup> In 1920, according to census figures,<sup>4</sup> the foreign born constituted somewhat less than one-third of the population, and the foreign nationalities most largely represented were the Polish, Austrian, Yugo-Slavic, Russian, and Greek.

Almost two-thirds (65 per cent) of the children here considered had mothers born outside the United States; a little more than three-tenths had native white mothers; 1 child in 25 was of colored parentage.

Foreign-born mothers were of many different nationalities. The mother of about 1 child in 7 was Polish; of 1 in 10, Serbo-Croatian; of 1 in 11, Slovak; and of 1 in 20, Magyar. Children of Italian, German, and Lithuanian mothers each comprised 4 per cent of the total. One hundred and six children were of Great Russian extraction. The mothers of 8 per cent of the total had come from the nations of northwestern or western Europe and the British Isles; the mothers of 36 per cent came from the countries of southeastern and southern Europe; the mothers of 44 per cent were of Slavic peoples.

The mothers in 34 per cent of the 3,991 families containing children of preschool age were native white; in 4 per cent, colored; and in 62 per cent, foreign born. Families were somewhat larger among the foreign-born women than among either native white or colored mothers. Seventy per cent of the families with native white mothers had but one living child of this age, as compared with 51 per cent of those with foreign-born mothers. On the other hand, 10 per cent of the families with foreign-born mothers had three children of preschool age, while of those with native white or with colored mothers the percentage was but 4. (Table 1.)

<sup>3</sup> Thirteenth Census of the United States, 1910, Vol. II, Population, p. 568. Washington, 1913.

<sup>4</sup> Fourteenth Census of the U. S., Vol. III, Population, 1920, p. 307.

TABLE 1.—*Number of children in family, by color and nationality of mother.*

Color and nationality of mother.	Number of families with children 2 to 7 years of age.										
	Total families.	1		2		3		4		5	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	3,991	2,322	58.2	1,336	33.5	312	7.8	20	0.5	1	(*)
Native white.....	1,356	944	69.7	345	25.4	60	4.4	7	0.5	.....	.....
Foreign-born white.....	2,457	1,248	50.8	952	38.8	245	10.0	12	0.5	.....	.....
Polish.....	567	279	49.1	223	39.4	62	11.0	3	0.5	.....	.....
Serbo-Croatian.....	350	163	46.6	142	40.6	40	11.4	5	1.4	.....	.....
Slovak.....	344	174	50.6	138	40.1	32	9.3	.....	.....	.....	.....
Magyar.....	180	89	49.4	71	39.4	20	11.1	.....	.....	.....	.....
Italian.....	154	67	43.5	68	40.9	24	15.6	.....	.....	.....	.....
German.....	150	83	55.3	56	37.3	11	7.3	.....	.....	.....	.....
Lithuanian.....	137	62	45.3	62	45.3	13	9.5	.....	.....	.....	.....
All other.....	575	331	57.6	197	34.3	43	7.5	4	0.7	.....	.....
Negro.....	172	124	72.1	39	22.7	7	4.1	1	0.6	1	0.6
Not reported.....	6	6	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Less than one-tenth of 1 per cent.

*Non-English-speaking nationalities.*—With the exception of mothers born in the British Isles (the mothers of 137 children, or 2 per cent, were in this group) and Canada, not including French Canadians (the mothers of 26 children), foreign-born mothers belonged to non-English-speaking nationalities. The preponderance of Slavs gave the foreign-born group a more homogeneous character than it might have had if the leading nationalities had not possessed so many common customs and ideals and shared such similar racial experiences.

Comparatively close and long association of Lithuanians, Magyars, and Rumanians with some of the Slavic races, moreover, has brought about some points of resemblance in culture and habits between them and the Slavs. In a new land national antagonisms based chiefly upon political disagreements of the Old World tend to break down and different nationalities become more conscious of their likeness to one another than of their dissimilarity. At any rate there was very little segregation of nationality groups into compact colonies wherein the order of life could be little affected by existence in a New World environment. Then, too, the very youthfulness of Gary, its visible growth, its alteration almost from day to day, must have tended to make all its inhabitants think very largely in terms of present or future, dwell less upon the past and the old, be less static than dynamic, and consider change and the adoption of new ways and customs normal. In addition the public schools exerted a very real influence over the life of the community and its various nationality groups, not only through the children but also through adults who enrolled in night classes in English, cooking, home management, sewing, foundry work, electricity, and other interesting yet practical subjects.



*Ability to speak English.*—Thirty-seven per cent of the 6,015 children of preschool age had mothers unable to speak English; 11 per cent had fathers who could not speak English. (Table 2.) Mothers, because of their close connection with home and children and lesser contact with outside business and industry, would be slow to acquire a language other than their native tongue. Fathers, on the contrary, would hear English spoken much more in streets, stores, and places of employment, and be forced in connection with their labor to adopt at least a small English vocabulary. Acquisition of English by the foreign born is of importance in that it makes possible better and fuller utilization of community resources, medical, social, and educational. To a mother it opens means otherwise unavailable of obtaining information on the care of home and children. To be incapable of speaking English in an English-speaking country constitutes a social and economic handicap for mother and father alike.

Inability to speak English was greatest among Polish mothers, least among German mothers. Serbo-Croatians, Lithuanians, and Italians had made less progress in acquiring English than had Slovak and Magyar mothers.

TABLE 2.—*Ability of mother to speak English, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.						
	Total.	Mother able to speak English.		Mother not able to speak English.		Mother's ability to speak English not reported.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent. <sup>1</sup>
Total.....	6, 015	3, 806	63. 3	2, 202	36. 6	7	0. 1
Native white.....	1, 843	1, 838	99. 7	4	0. 2	1	0. 1
Foreign-born white.....	3, 934	1, 735	44. 1	2, 198	55. 9	1	( <sup>2</sup> )
Polish.....	923	184	19. 9	738	80. 0	1	0. 1
Serbo-Croatian.....	587	172	29. 3	415	70. 7		
Slovak.....	546	280	51. 3	266	48. 7		
Magyar.....	291	190	65. 3	101	34. 7		
Italian.....	265	100	37. 7	165	62. 3		
German.....	228	203	89. 0	25	11. 0		
Lithuanian.....	225	77	34. 2	148	65. 8		
All other <sup>3</sup> .....	869	529	60. 9	340	39. 1		
Negro.....	232	232	100. 0				
Not reported.....	6	1				5	

<sup>1</sup> Not shown where base is less than 100.

<sup>2</sup> Less than one-tenth of 1 per cent.

<sup>3</sup> Includes 106 Great Russian, 97 Rumanian, 85 Little Russian, 76 Irish, 73 Danish, Swedish, and Norwegian, 73 Jewish (Russian), 71 Bohemian and Moravian, 61 English, Scotch, and Welsh, 58 Greek, 38 Slovenian, 26 Canadian (other than French), 22 Jewish (other than Russian), 25 Spanish (21 European, 1 Mexican, 3 other), 14 Assyrian, 14 Bulgarian, 9 Persian, 6 Dutch and Flemish Belgian, 3 French and Walloon, 3 French Canadian, 2 Albanian, 7 other foreign-born white, nationality not specified.

*Years in the United States.*—Mothers of but 3 per cent of the children had been in the United States less than five years. Among the larger non-English-speaking groups no marked difference in length of residence in this country was observable. Mothers of at least

nine-tenths of the children in each foreign nationality group represented had been in the United States five years or longer. (General Table I, p. 139.)

### Literacy.

Only 9 children had native white mothers who reported themselves unable to read and write, whereas 1,378 children had foreign-born mothers who could not claim ability to read and write in any language, and 14 colored children had illiterate mothers. (Table 3.) In short, nearly one-fourth of all the children (23 per cent) had mothers whose opportunity to secure knowledge and profit by instruction was limited to the medium of the spoken word. Like inability to speak English, illiteracy was significant mainly because it increased a mother's isolation and restricted her chance to learn.

TABLE 3.—*Literacy of mother, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.						
	Total.	Mother literate.		Mother illiterate.		Mother's literacy not reported.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	6,015	4,596	76.4	1,401	23.3	18	0.3
Native white.....	1,843	1,832	99.4	9	0.5	2	.1
Foreign-born white.....	3,934	2,548	64.8	1,378	35.0	8	.2
Polish.....	923	546	59.2	375	40.6	2	.2
Serbo-Croatian.....	587	258	44.0	325	55.4	4	.7
Slovak.....	546	415	76.0	130	23.8	1	.2
Magyar.....	291	260	89.3	31	10.7	.....	.....
Italian.....	265	144	54.3	121	45.7	.....	.....
German.....	228	215	94.3	13	5.7	.....	.....
Lithuanian.....	225	74	32.9	151	67.1	.....	.....
All other.....	869	636	73.2	232	26.7	1	.1
Negro.....	232	216	93.1	14	6.0	2	.9
Not reported.....	6	.....	.....	.....	.....	6	.....

<sup>1</sup> Not shown where base is less than 100.

Literacy was greater among fathers than among mothers. But 1 child in 8 had a father who was said to be unable to read or write. Though high intelligence may sometimes be associated with illiteracy, inability to read or write is likely to be associated with ignorance and a low economic level through its untoward influence over earning capacity and the restriction it places upon choice of occupation.

The proportion (67 per cent) of children with illiterate mothers was far higher among Lithuanians than in any other nationality group. Next to Lithuanians, Serbo-Croatians (55 per cent) and Italians (46 per cent) showed the greatest amount of illiteracy. Among the children of Magyar mothers, on the contrary, the proportion (11 per cent) was much lower and among the children of German mothers (6 per cent) it was more closely analogous to the proportion among the native white.

**Composition of family.**

A father, a mother, and one or more children are the necessary elements of the family as a unit in society. In this study, a family has been considered normal only if both mother and father were present in the home. Continued absence of one or both parents, from any cause whatsoever, renders the family incomplete and somewhat alters conditions of life for the child. By far the largest number of children of preschool age in Gary were growing up in normal families as here defined. (Table 4.) Six per cent, however, were living in homes broken by the death, desertion, or prolonged absence of one or both parents, or in families containing none but foster or boarding children. Of the boys and girls 2 to 7 years of age, practically 95 out of every 100 were being cared for by father and mother in homes maintained by both.

TABLE 4.—*Composition of family.*

Composition of family	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total .....	6,015	100.0
Normal .....	5,628	93.6
Father absent.....	250	4.2
Mother absent.....	60	1.0
Both parents absent.....	73	1.2
Not reported.....	4	( <sup>1</sup> )

<sup>1</sup> Less than one-tenth of 1 per cent.

**Duration and stability of family life.**

Sixty-nine per cent of the 3,991 families in which children 2 to 7 years of age were found had existed at least seven years; 18 per cent had had a life of five years but less than seven years; and only 11 per cent had a history of less than five years. Sixty-nine families (less than 2 per cent) contained only foster or boarding children.

Families with children of preschool age formed a very stable part of the community; they were not of the type which changes place of residence often. In the period covered by the life of children born in 1911 to 1915, that is, in a span of approximately seven years, practically four-fifths of the families had moved from one city to another but once or not at all; an additional eighth had changed their city of residence twice; only 7 per cent had moved three times or more. (Table 5.)

TABLE 5.—*Number of removals from city to city between January 1, 1911, and March 1, 1918, by duration of family history.*

Duration of family history.	Families with children 2 to 7 years of age.										
	Total.	No removals.		Number of removals from city to city between January 1, 1911, and March 1, 1918.						Not reported whether removed	
				1		2		3 and over.			
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent. <sup>1</sup>
Total.....	3,991	1,499	37.6	1,651	41.4	472	11.8	291	7.3	78	2.0
2 years, less than 3.....	8	4	.....	2	.....	2	.....	.....	.....	.....	.....
3 years, less than 5.....	431	244	56.6	121	28.1	43	10.0	23	5.3	.....	.....
5 years, less than 7.....	712	331	46.5	246	34.6	85	11.9	49	6.9	1	0.1
7 years and over.....	2,758	916	33.2	1,276	46.2	340	12.3	219	7.9	7	0.3
Not reported.....	13	4	.....	6	.....	2	.....	.....	.....	1	.....
Foster or boarding children only.....	69	.....	.....	.....	.....	.....	.....	.....	.....	69	.....

<sup>1</sup> Not shown where base is less than 100.

### Size of family.

For this study, immediate blood relationship to the child 2 to 7 years of age was made the determining factor in fixing family limits. On this basis an adopted or boarding child would ordinarily constitute the only member of his family in a household. Families made up of one or two individuals, therefore, include chiefly boarding or foster children, and children in broken homes. More children were living in families numbering five persons than in those of any other size. Families with from four to six members contained two-thirds of the 6,015 children born in the period 1911 to 1915. A tenth of the children lived in families of three; a ninth, in families of seven; a ninth in those numbering eight or more. (General Table II, p. 140.) The inclusion was limited to members of the family actually resident in the home at the time of the visit of the Children's Bureau agent; it covered married sons and daughters living at home and working boys and girls as well as children dependent upon their parents.

Nearly three-fifths (58 per cent) of the families containing children of preschool age had but one such child; about one-third had two children born in the selected period, while slightly less than one-twelfth had as many as three children born in the years specified. In 20 families there were four preschool children; one family had five such children. These 21 families, however, formed less than 1 per cent of the entire number of families. Of the babies born in 1916, 1,040 were living in families having also children of preschool age; the average number of young children in each home was about two. (Table 6.)

TABLE 6.—*Number of children born in 1916 living in family, by number of children born 1911-1915.*

Number of children born in 1916 living in family.	Families with children 2 to 7 years of age.					
	Total.	Number of children born 1911-1915.				
		1	2	3	4	5
Total.....	3,991	2,322	1,336	312	20	1
None.....	2,951	1,721	973	238	18	1
1.....	1,037	599	362	74	2	
2.....	3	2	1			

**Distribution in city.**

The First Subdivision, of which Kirk forms the northern part and which is bordered on the west by Ambridge, was the part of Gary that had been most completely developed by the land company. It was built first and was the most completely supplied with sewer and water systems. The First Subdivision lies almost entirely south of the Grand Calumet, with Fifth Avenue—the main east and west street—as its long axis and Broadway as its short one. South of the First Subdivision lie the South Side and Tolleston, the former the part of the city to which the unskilled foreign workman resorted and which he developed through private enterprise, insufficiently aided and directed by community supervision; the latter is an older town, largely rural, having many foreign-born residents. Still farther south, flanking Broadway toward its farthest extremity, lie Ridge Road and Glen Park, a district more pleasing in natural surroundings and developing into a good residential section. To the northwest lie Clark and Pine, tiny settlements, which in 1918 had been but little affected by inclusion within the city limits of Gary. West Gary was still only sparsely settled, but the houses erected in it were for the most part of good quality. Lincoln Park, adjoining Tolleston on the south, was also sparsely settled.

The South Side, the residence of 46 per cent of the 3,991 families included in the study, was the home of almost half (48 per cent) the children of preschool age in the city. (Table 7.) The First Subdivision, with 28 per cent of the families, had one-fourth of the children of this age, and Tolleston, with 14 per cent of the families, had a little more than one-seventh of the children. In other words, almost two-thirds of the children were living in districts more largely of foreign-born population, and less well developed as to sanitation, than other parts of the city.

TABLE 7.—*Number of children in family, by district of residence.*

District of residence.	Families with children 2 to 7 years of age.										
	Total.	Number of children.									
		1		2		3		4		5	
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	3,991	2,322	58.2	1,336	33.5	312	7.8	20	0.5	1	(?)
Ambridge.....	119	82	68.9	31	26.1	6	5.0				
Clark.....	24	13		7		3		1			
First Subdivision.....	1,099	762	69.4	285	25.8	44	4.0	8	.7		
Lincoln Park.....	61	26		32		3					
Ridge Road and Glen Park.....	266	160	60.2	85	32.0	21	7.9				
South Side.....	1,835	974	53.1	677	36.9	175	9.5	8	.4	1	0.1
Tolleston.....	557	286	51.3	210	37.7	58	10.4	3	.5		
West Gary.....	30	19		9		2		3			

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Less than one-tenth of 1 per cent

AMERICAN  
BRI E

AMERICAN CA AN  
FOUN Y

O A Y

GO 2

G RY

W

000





## HOUSING.

From the standpoint of human welfare, housing has long been of interest; from the industrial side it has in recent years acquired more and more importance as a factor contributory to the content or the unrest of labor. Housing evils epitomized in brick and stone have great permanence; no inconsiderable proportion of the industrial population of our great cities to-day is housed in accordance with the mistakes of yesterday because those errors have outlasted the generation which made them.

To bring forward actual statistical proof of the interrelation between housing and well-being is not easy, because housing is but one of many factors affecting life and welfare. Bad housing can, however, be judged by the company it keeps; its common associates are poverty, ignorance, vice, and crime. A community can partially protect its citizens from these by preventing the erection of unsuitable or unfit dwellings, through the adoption of proper legislative measures.

### Legislation.

Building ordinances and regulations, and provisions made for supervision and sanitation, show the minimum housing standards which a community upholds. As already stated, regulations were slow to appear in Gary. A ready-made city must in no little measure have antedated its citizenship and could have developed civic consciousness only after it had been in existence for some time. Realization of problems requiring regulation would be likely to be somewhat tardy.

While still a town, Gary created a department of buildings. In 1910, the city confirmed the establishment of such a department and designated a commissioner of buildings as its chief official. To the commissioner were to be submitted plans for all buildings proposed for erection in the city. Building might proceed only when the commissioner had granted a permit after approval of the plan submitted. The next year saw the passage of an ordinance to regulate and govern plumbing in the city, and provision for the appointment of an inspector of plumbing and house drainage, and a board of examiners to pass upon the qualifications of those desiring to practice plumbing. By 1918, in addition to the building commissioner, the plumbing inspector, and clerical assistance for both these officials, the city had made provision for a sanitary inspector and his deputy.

Among the early ordinances were those fixing fire limits in the city and regulating building within them. An ordinance passed early in 1910 and amended later in the same year and in 1914 contained the chief regulations and provisions made by the city to control the construction of buildings. In addition to requirements relative to material to be used, structure of walls, excavations, floor loads, stairs, and fireproof partitions, and rules concerning the installation of electric wiring, dwellings are defined and classified by the ordinance as follows: Residence, "a building used by not more than two families as a dwelling"; flat building, "any building designed and intended for use as a residence for three or more families, and shall include lodging house and apartment building." A basement story is defined as "a story the floor of which is 3 feet or more below the sidewalk, and does not extend any higher than 11 feet in clear and is suitable for habitation." Further, "no room in lodging or apartment buildings shall be considered habitable unless it has at least one window of an area equal to one-tenth the superficial area of such a room, opening into the external air." The size of light and air shafts for habitable rooms in "flat buildings" is specified, and provision is made that every court or light shaft in any such building shall be opened and unobstructed from floor to outer air. Condemnation of a building as dangerous or insecure from the structural standpoint is made possible by this ordinance.

Not until 1913, when the housing law of the State of Indiana became applicable to Gary, did anything more far-reaching and detailed than the above exist to govern such important matters as the percentage of a lot which might be covered, the use of one lot for more than one building, the more exact definition of what should constitute a habitable room or basement, installation of sewer connections and the use of city water supply, the regulation of size of rooms, the provision of sanitary conveniences, the formulation of a standard by which overcrowding within a room might be measured, and the condemnation of a building as unfit because insanitary and a menace to the health of its occupants.

The act of 1913 applied only to a tenement house, that is, "the home or residence of two or more families living independently of each other and having a common right in the halls, stairways, yard, cellar, water-closets or privies, or any of them." Much of Gary was built before 1913, in absence of regulations sufficient to guard against possible housing evils in the tenements constructed. Most of the act of 1913 was not applicable to tenements existing prior to its passage. But even more important, from the standpoint of housing in Gary, was the fact that no provision had been made either in State law or city ordinance to enforce standards for one-family houses, or to prevent continued use of one lot for more than one such house, or

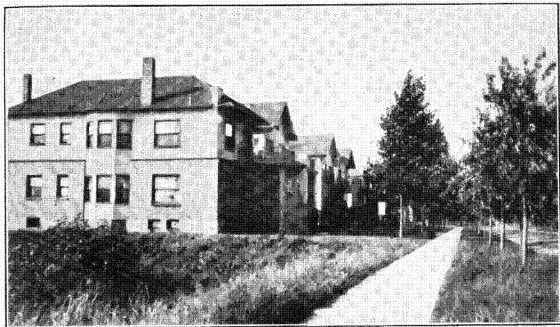


PLATE III.—EXCEPTIONALLY GOOD COMPANY HOUSES IN AMBRIDGE.

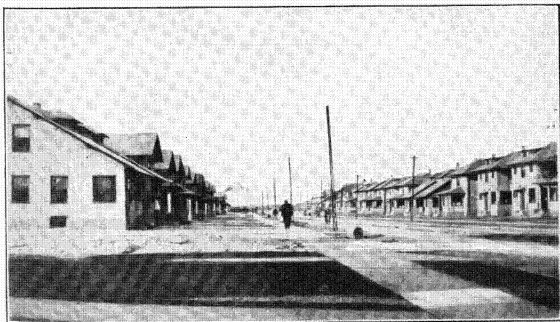


PLATE IV.—MODERN CEMENT HOUSES.

[Note broad streets, the pavements, lawns, and sidewalks.]



to make impossible refusal to connect a one-family house with sewer and water mains. Consciousness of the menace inherent in the lack of more careful regulation was growing. In 1919, the annual message of the mayor charged the city council that the city's building ordinance, in particular, needed amendment "so that every encouragement be made for the construction of houses, health and sanitation in all cases regarded."

Not only was the definition of overcrowding in the State law confined to rooms in tenement houses, but the law was further limited because enforcement of the standard as to what constituted overcrowding and what rendered a tenement uninhabitable was permissive and not mandatory, discretion resting with the board of health.

### **Company housing.**

Land company housing projects had been confined chiefly to the First Subdivision, Kirk, and Ambridge; the other subdivisions of the city had been developed by private enterprise. Company housing varied. The families of the employees of the freight railroad which serves the mills lived in small frame houses, very similar in style of construction. On the whole the houses which had been erected for the men working in the steel mills were good, substantially constructed buildings, varied in plan and appearance. The "double dry goods boxes," as the buildings first erected to accommodate the unskilled immigrant laborer were called, were quite uniform and stereotyped but not numerous enough to be prominent. (Plate II.) Houses in Ambridge were like those in the First Subdivision, chiefly frame or brick and frame, and of varied architecture. (Plate III.) The dwellings for the employees of one company were easily distinguishable from other company housing because of the use of plaster and cement. Among these buildings were some cement houses in terrace formation, but of several patterns. (Plate IV.) The faults of monotonous regularity and uniformity, which have so often characterized housing provided by employers in mill villages and towns, had been in large measure avoided by the land company.

The land company desired to construct modern houses, and with this in mind opened no district for residence without first having paved the streets and laid the water and sewer mains. One-family detached or semidetached houses predominated among the buildings erected by the company, though apartment buildings also were constructed, as well as the terrace houses mentioned above. In the residence portion of the First Subdivision, a uniform building line 30 feet from the front of the lot was adopted and insisted upon by the land company for buildings erected on its lots by private enterprise.

The undulations of the land were leveled before building was begun. The barren sand was especially drear when unrelievedly flat. The land company and the town and city government had beautified the residence section of the First Subdivision. The land company had fostered the growth of lawn and of shade trees; the heat, light, and water company had supplied free water for use on lawns, and the town had passed an ordinance in 1909 requiring that the residence lots of the First Subdivision should be "improved and maintained with suitable lawns" and that shade trees should be planted in uniform position on each lot. It should not be forgotten that the formation of a lawn in Gary almost invariably entailed first over-laying the sand with black dirt. Only by bearing in mind the un-responsive character of the sand can one justly appreciate the city's accomplishments in securing lawns and shade trees.

### **Housing by private enterprise.**

No subdivision of Gary was without examples of housing by private speculative enterprise. Houses erected in the First Subdivision by private enterprise compared very favorably with the building done by the land company. West Gary dwellings also were of good type; a few were provided with modern sanitary conveniences even though the city sewer and water systems had not yet reached them. Ridge Road and Glen Park had some beautiful and spacious residences set in pleasant grounds to counterbalance occasional poorly made huts hidden in the woods, and a number of mediocre houses lacking sewer and water connections.

In 1918 West Gary, Ridge Road, and Glen Park were still comparatively sparsely settled. Clark and Pine, older settlements, small and decidedly rural at the time of their inclusion in Gary, lacked sewers, water mains, and paved streets. Tolleston, too, was but partially served by the city sewer and water systems and had a few unpaved streets. The more recent housing in Tolleston tended to resemble that of the South Side, the subdivision of the city in which housing was poorest.

Provision for the immigrant common laborers in the steel mills was never adequate, but even the few houses erected for them by the land company were soon given over to Americanized men with families because of the way in which the first tenants of foreign birth crowded the houses with lodgers and failed to use properly unaccustomed conveniences such as bath, toilet, and sink. The South Side exemplified what the unskilled immigrant was able to secure for himself unaided by the land company and protected and helped but little by building ordinances. Examples of lot overcrowding, of rear houses, of badly constructed tenements (Plate V), of inadequate sanitary conveniences, were numerous. Perhaps the worst



PLATE V.—BADLY CONSTRUCTED AND OVERCROWDED TENEMENTS.

[The building at left, with garage in basement, houses four families; the one at right, eight families.]

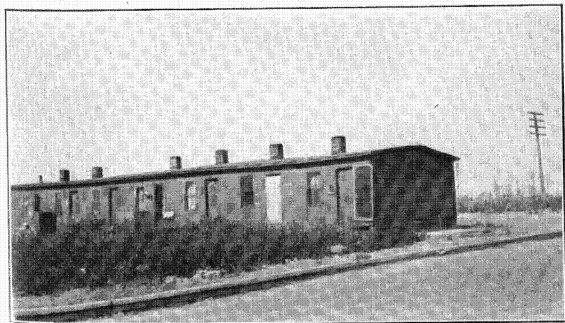


PLATE VI.—A ONE-STORY FRAME SHACK.

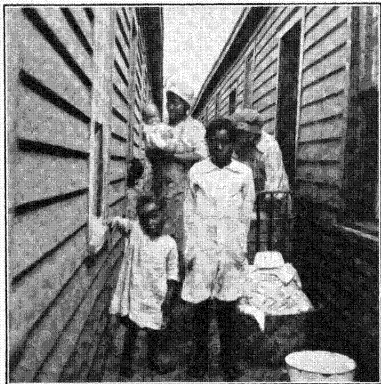


PLATE VII.—PASSAGEWAY, 3 FEET WIDE, BETWEEN TWO  
FRAME SHACKS—SIX APARTMENTS IN EACH.

[Single water faucet and four privies for use of the 12 families.]

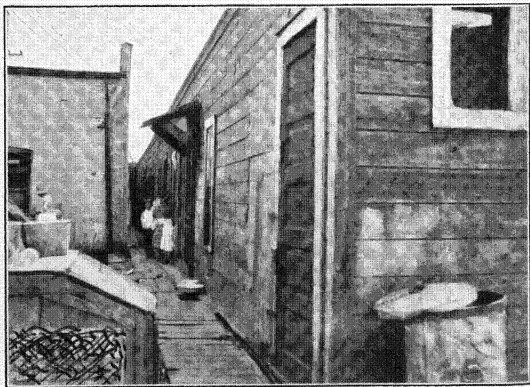


PLATE VIII.—A NINE-FAMILY TENEMENT WITH YARD CLOSET AT END  
OF ROW.



structures were one-story frame shacks about 100 feet long and 18 or 20 feet wide. (Plate VI.) Such shacks contained as many as eight or nine two-room apartments, each room being 9 or 10 feet square. The typical lot in Gary is 25 or 30 feet wide and 125 or 150 feet deep. If one of these shacks had been placed on an outside lot so that entrance to the apartments was directly from the sidewalk, the congestion did not seem so great. If two such buildings occupied adjoining inside lots, however, in order to enter, one had to traverse the long narrow passage between them. Plate VII depicts such a passage 3 feet wide between twin buildings which together were designed to house 12 families in three-room apartments. Plate VIII shows a nine-family dwelling of two-room apartments, and makes clear how such a structure on an inside lot must depend for light and air upon uncovered space on the neighboring lot. In the early days one pump furnished the usual water supply for such shacks. At the time of the study the 12 apartments in the shacks first pictured had been provided with a single water faucet at the end of one building; the other shack had a water faucet in a room at the rear of the ninth apartment. One yard water-closet attached to the end of the building was the sole toilet provision for the nine-family shack. Occupying the alley end of the lots on which the two six-family shacks (Plate VII) stood were four yard privies used promiscuously by all the families.

Compared to these buildings, one-family shacks of two or three rooms, thrown together from odd scraps of material after no formal plan, had at least the advantages of greater privacy; but this apparently was their chief recommendation. Accompanying illustrations (Plates IX, X, XI, XII) show the extremely makeshift, ramshackle construction common to these dwellings, and indicate how the keeping of domestic fowls and animals sometimes complicates the living problem. Two sections of the South Side contained colonies of families living in such one-family shacks, for which they paid a nominal sum yearly as ground rent. Insanitary, inconvenient, insecure in the protection they afforded against wind, rain, cold, and heat, they nevertheless continued to be used for dwellings; nor did it seem likely that they would be condemned or abandoned until the supply of suitable houses became more adequate.

### **The homes of the families included in this inquiry.**

*Type of house.*—Half the children in Gary 2 to 7 years of age were living in buildings housing but one family, 22 per cent were in two-family buildings, and but slightly over a fourth (27 per cent) occupied structures accommodating three or more families. (Table 8.) Only 60 children (1 per cent) were in apartments on the third or a higher floor; 217 (4 per cent) were in basement quarters. The one- or two-

family dwelling was far more common in Gary than were large tenements or apartment buildings.

Compared with the rest of the city, the South Side and the First Subdivision were thickly settled in part of their areas at least. Almost two-fifths of the preschool children of the South Side, and one-fourth of those of the First Subdivision, were living in buildings holding three or more families; these two districts together comprised almost all the dwellings in which children of this age were living on the third floor or higher. The more rural sections of the city had, as was to be expected, the highest proportion of children housed in one-family dwellings. West Gary, Ridge Road, Glen Park, Clark, Lincoln Park, even Tolleston, had felt but little, if any, pressure necessitating the erection of multiple dwellings.

TABLE 8.—*Type of dwelling, by district of residence.*

District of residence.	Children 2 to 7 years of age.											
	Type of dwelling.											
	Total.	One-family house.		Two-family house.		House for 3 or more families.					Not re-ported.	
		Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Total.		Base-ment	First floor.	Sec-ond floor.		Third floor or high-er.
						Num-ber.	Per-cent. <sup>1</sup>					
Total.....	6, 015	3, 008	50. 0	1, 334	22. 2	1, 645	27. 3	217	746	622	60	28
Ambridge.....	162	53	32. 7	70	43. 2	39	24. 1	3	20	16	.....	.....
Clark.....	40	35	.....	4	.....	1	.....	.....	.....	1	.....	.....
First Subdivision.....	1, 496	799	53. 4	307	20. 5	380	25. 4	85	141	134	20	10
Lincoln Park.....	99	80	.....	9	.....	10	.....	.....	2	8	.....	.....
Ridge Road and Glen Park.....	393	347	88. 3	39	9. 9	6	1. 5	2	1	3	.....	1
South Side.....	2, 890	1, 042	36. 1	740	25. 6	1, 091	37. 8	119	518	417	37	17
Tolleston.....	892	611	68. 5	163	18. 3	118	13. 2	8	64	43	3	.....
West Gary.....	43	41	.....	2	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

Possibilities of through and of cross ventilation should be considered in judging the suitability and structural excellence of homes in which children are being reared. Almost two-thirds of the 6,015 children of preschool age in Gary were living in dwellings which on four sides had doors or windows opening to the outer air; nine-tenths were in homes with open air on at least three sides; less than 1 per cent (46 children) were in dwellings which had openings to the air on but one side. (Table 9.) The superiority of the one-family residence in this respect is evident. Four-fifths of the children in buildings sheltering but one family lived in dwellings which had access to outside air on four sides; only one-fourth of those in buildings housing at least three families occupied apartments equally favored in possibilities of light and ventilation.

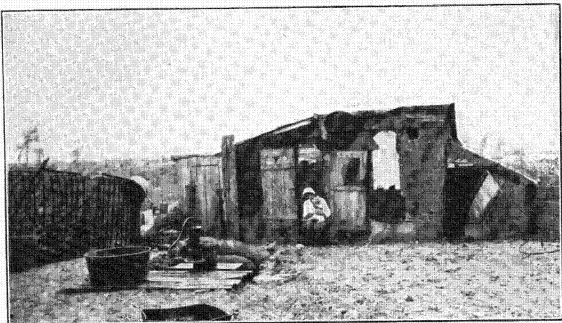


PLATE IX.—A HOME IN ONE OF THE SHACK COLONIES.

[Note hogs near well at left.]



PLATE X.—A SHACK OF MAKESHIFT CONSTRUCTION.

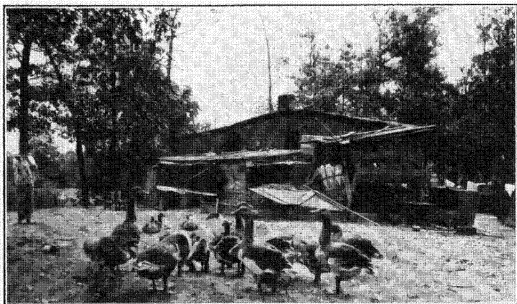


PLATE XI.—SIDE VIEW OF SHACK—THE KEEPING OF DOMESTIC FOWLS  
COMPLICATES LIVING PROBLEMS.

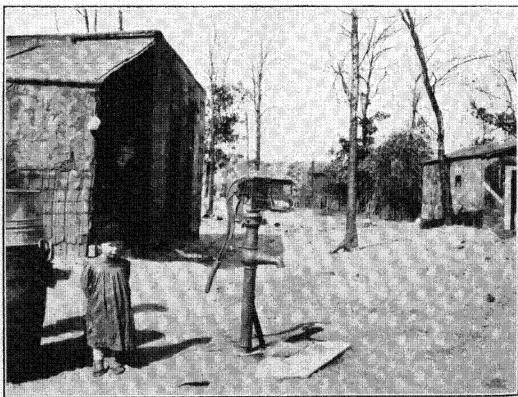


PLATE XII.—A DRIVEN WELL IN ONE OF THE SHACK DISTRICTS.

TABLE 9.—Access to outside air, by type of dwelling.

Access to outside air.	Children 2 to 7 years of age.								
	Total.		Type of dwelling.						Not reported. <sup>1</sup>
			One-family house.		Two-family house.		House for 3 or more families.		
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	6,015	100.0	3,008	100.0	1,334	100.0	1,645	100.0	28
Open air on 1 side.....	46	0.8	11	0.4	3	0.2	29	1.8	3
Open air on 2 sides.....	482	8.0	80	2.7	72	5.4	328	19.9	2
Open air on 3 sides.....	1,560	25.9	330	11.0	343	25.7	884	53.7	3
Open air on 4 sides.....	3,907	65.0	2,586	86.0	916	68.7	404	24.6	1
Not reported.....	20	0.3	1	(*)	-----	-----	-----	-----	19

<sup>1</sup> Per cent distribution not shown where base is less than 100.<sup>2</sup> Less than one-tenth of 1 per cent.

*Tenure and rental.*—According to the United States Census of 1910, made when Gary was about 4 years old and possessed a population of 16,802, 68 per cent of the dwellings in the city were rented, and 28 per cent were owned by the people living in them.<sup>a</sup> This was not a high percentage of ownership, but it did not differ greatly from that obtaining in other industrial communities in Indiana. In 1918, 3,210—slightly more than one-half—of the children born from 1911 to 1915 were living in rented homes; 30 per cent were in homes owned by their parents, and 15 per cent more in homes which their parents had begun to purchase. (Table 10.) Eighty-one children 2 to 7 years of age (1 per cent of the total) were in families termed “squatters,” who were occupying, for a dollar or two yearly, one-family shacks from which they might be evicted summarily.

The proportion of ownership was highest among the foreign born. A little more than one-half of the children with mothers born outside the United States were living in owned homes, as contrasted with a little over one-third of those with native white mothers, and but slightly more than one-tenth of those with colored mothers. Possibly the history of the building of Gary affords some explanation of the higher percentage of ownership among the foreign born. As mentioned above, company provision for them was slight, and they may therefore have found that to erect and own their homes was the best and most feasible method of securing houses.

<sup>a</sup> Thirteenth Census of the United States, 1910, vol. 1, Population, p. 1357, Washington, 1913.

TABLE 10.—*Family tenure of home, by color and nativity of mother.*

Color and nativity of mother.	Children 2 to 7 years of age.										
	Total.	Family tenure of home.								Not reported.	
		Owners.		Buyers.		"Squat- ters."		Renters.			
		Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent. <sup>1</sup>		
Total.....	6, 015	1, 799	29. 9	900	15. 0	81	1. 3	3, 210	53. 4	25	0. 4
Native white.....	1, 843	405	22. 0	241	13. 1	10	0. 5	1, 178	63. 9	9	0. 5
Foreign born.....	3, 934	1, 387	35. 3	638	16. 2	67	1. 7	1, 827	46. 4	15	0. 4
Negro.....	232	5	2. 2	21	9. 1	4	1. 7	201	86. 6	1	0. 4
Not reported.....	6	2						4			

<sup>1</sup> Not shown where base is less than 100.

Home ownership tends to stabilize the residence of a family. One-fifth of the children whose parents owned or were purchasing homes, as compared with over one-half (53 per cent) of those whose parents were tenants, had occupied the dwellings in which they were living at the time of the study less than a year. Thirty per cent of those whose parents were owners or buyers, and 5 per cent of those whose parents rented, belonged to families which had not moved for at least five years.

Considering together the children of owners and renters, 42 per cent of children with native white mothers, 35 per cent of those with mothers of foreign birth, and 72 per cent of those whose mothers were colored, belonged to families that had changed living quarters within the year. The proportion of those in families that had been at least five years in their present place of abode was highest among children with foreign mothers (18 per cent), next highest (15 per cent) among children with native white mothers, and lowest among children with colored mothers (2 per cent). (General Table III, p. 141.)

In the city as a whole, the four-room house was the type most commonly occupied by the families of children included in the study. The size of apartment most characteristic varied somewhat from district to district. For example, in Clark and in the First Subdivision homes of six rooms were the most common; in Ambridge and West Gary those with five; in Lincoln Park those with three, and in the remaining sections, homes with four rooms.

Rentals for four-room dwellings varied widely. The location of the dwelling in the basement or on another floor of a building, its situation in the city, the amount of light and air it afforded, the number of improvements it possessed—water, toilet, bath, sink, heat, light—all figured, doubtless, in relation to the amount of rent charged. In Ambridge, where all dwellings in which children 2 to 7 years of age were living were modern in their sanitary conveniences, the range of monthly

rental for four rooms was between \$15 and \$25; in Clark, which did not possess sewer and water systems, four-room dwellings rented for \$5 to \$15 a month. In the First Subdivision and the South Side, where extremes in type of accommodation available were greater, the rent of four-room dwellings was in some instances as low as \$5; other dwellings of this size rented for more than \$40 a month. The median monthly rental for four rooms in Gary as a whole, in 1918, was \$15 to \$20; in Tolleston and Clark it was \$10 to \$15, and in the First Subdivision, \$20 to \$25. Except in the last section cited, rentals did not appear to be high. (General Table IV, p. 143.)

The amount of home ownership varied considerably in different sections of the city. The proportion of children 2 to 7 years of age living in rented houses was 98 per cent in Ambridge; 28 per cent in Lincoln Park, and 70 per cent in the First Subdivision; 50 per cent in Clark and the South Side; 44 per cent in Tolleston; and 22 per cent in Ridge Road and Glen Park.

*Sanitary conveniences.*—To a very great degree equipment of houses with sanitary conveniences depends upon the extension of sewer and water systems in a city. Especially does this hold for workingmen's dwellings, because of the greater expense attendant upon furnishing ordinary sanitary conveniences in the absence of public water and sewer systems. In 1918, it was estimated by an official of the heat, light, and water company that 80 per cent of the people in the city could be served by the city water supply with its 80 miles of mains. This meant that the more closely built and well-peopled districts had ready access to the water supply, but did not imply that the outlying sections had been reached. Estimate of the possibility of sewer connections was even higher. The city engineer believed 95 per cent of the city's population could secure sewer connections for property. With these estimated possibilities it is of interest to compare the conditions existing in 1918 in the homes of children of preschool age.

Of the children of preschool age, 1,496, or one-fourth of the entire number in the city, were living in homes which lacked city water supply and depended wholly upon a well or cistern. (Table 11.) Forty of these children (3 per cent) lived in Clark, 43 in West Gary—to which sewer and water systems had not penetrated—110 (7 per cent) in Ridge Road and Glen Park, 617 (41 per cent) in Tolleston, and 49 (3 per cent) in Lincoln Park, districts which were but partially served; 632 (42 per cent) in the South Side and 5 (less than 1 per cent) in the First Subdivision, where both water and sewer systems were more easily accessible. In Ambridge all the children 2 to 7 years of age were living in houses provided with city water, and the First Subdivision had almost as good a record. These districts ranked as follows, in descending order, in respect to water and sewer provision: The South Side, Ridge

Road and Glen Park, Lincoln Park, and Tolleston. West Gary and Clark were totally without city water supply.

Where the city supply was lacking the source of water was ordinarily the driven well, simple and easy to construct because of the character of the soil. A pipe with a sieve over its lower end, driven into the sand to a depth of 10, 15, or 20 feet, was reasonably likely to tap a supply of ground water. An iron pump attached to the upper end of such a pipe completed the driven well. It is probable that the sandy soil was a protection against contamination of the water yielded by these wells.

TABLE 11.—*Source of water supply, by district of residence.*

District of residence.	Children 2 to 7 years of age.								
	Total.	Water supply.							
		City water only.		City and well or cistern		Well or cistern only.		Not reported.	
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	6,015	4,486	74.6	12	0.2	1,496	24.9	21	0.3
Ambridge.....	162	162	100.0						
Clark.....	40					40			
First Subdivision.....	1,496	1,484	99.2			5	.3	7	.5
Lincoln Park.....	99	50				49			
Ridge Road and Glen Park..	393	280	71.2	2	0.5	110	28.0	1	.3
South Side.....	2,890	2,236	77.4	9	.3	632	21.9	13	.4
Tolleston.....	892	274	30.7	1	.1	617	69.2		
West Gary.....	43					43			

<sup>1</sup> Not shown where base is less than 100.

From the housewife's standpoint, the desirability of water supply within the dwelling can scarcely be overemphasized. Almost four-fifths of all preschool children lived in homes which were not dependent upon water supply located outside the dwelling. (Table 12.) In Clark and West Gary, districts not reached by the city water system, the homes of practically three-fifths of the children had water supply in the dwelling. (General Table V, p. 144.) In the city as a whole, about one-eighth of the children with native white mothers, one-fourth of those with mothers of foreign birth, and one-third of those with colored mothers, lived in homes with only an outdoor water supply.

The following examples suggest what absence of water supply within the dwelling may involve:

The difficulty which a mother of four young children, living in the nine-family shack described on p. 19 would have in sharing the single water faucet with the eight other housewives, calls for no elaboration. Certainly cleanliness of home and person were very difficult to attain in such circumstances. The mother of six children, two of preschool



age, who was renting a small frame shack on the alley line back of a well-built tenement taking up the front of the lot, had neither water supply nor toilet in her own home or yard. The entire family of seven was dependent upon hydrant and water-closet in an apartment on the second floor of the building in front.

TABLE 12.—*Location of water supply, by color and nativity of mother.*

Color and nativity of mother	Children 2 to 7 years of age.						
	Total.	Location of water supply.					
		In dwelling.		Outside dwelling.		Not reported.	
		Number.	Per cent. <sup>1</sup>	Number	Per cent.	Number.	Per cent.
Total.....	6, 015	4, 757	79. 1	1, 239	20. 6	19	0. 3
Native white.....	1, 843	1, 621	88. 0	215	11. 7	7	0. 4
Foreign-born white.....	3, 934	2, 981	75. 8	942	23. 9	11	0. 3
Negro.....	232	149	64. 2	82	35. 3	1	0. 4
Not reported.....	6	6					

<sup>1</sup> Not shown where base is less than 100.

The homes of 77 per cent of all the children had been equipped with sinks, and those of 37 per cent, with bath tubs. Two-thirds of the children lived in dwellings having flushing toilets, and one-third lived in dwellings having dry yard privies. (General Table VI, p. 145.) Almost two-fifths of the children lived in houses equipped with all three sanitary conveniences—sink, water-closet, and bath; 28 per cent more had homes in which were sinks and water-closets. The homes of one-fifth lacked all these sanitary conveniences. Table 13 shows how close was the correspondence between the provision of sanitary conveniences and connection with the city water supply.

TABLE 13.—*Sanitary conveniences of dwelling, by source of water supply.*

Sanitary conveniences of dwelling.	Children 2 to 7 years of age.						
	Total.		Water supply.				
			City.		Well or cistern.		Not reported. <sup>1</sup>
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	6,015	100.0	4,498	100.0	1,496	100.0	21
Sink, water-closet, and bath.....	2,205	36.7	2,195	48.8	10	.7	
Sink and water-closet.....	1,655	27.5	1,644	36.5	11	.7	
Sink and bath.....	9	.1	4	.1	5	.3	
Water-closet and bath.....	22	.4	22	.5			
Sink only.....	768	12.8	421	9.4	347	23.2	
Water-closet only.....	82	1.4	72	1.6	8	.5	2
No conveniences.....	1,252	20.8	138	3.1	1,114	74.5	
Not reported.....	22	.4	2	( <sup>2</sup> )	1	.1	19

<sup>1</sup> Per cent distribution not shown where base is less than 100. <sup>2</sup> Less than one-tenth of 1 per cent.

The proportion of children of native white mothers living in homes with sanitary conveniences was consistently higher than that of children of mothers born outside the United States or of colored mothers. Of children of native white mothers, 84 per cent lived in homes supplied with city water; 71 per cent of those of foreign-born mothers, and 69 per cent of those of colored mothers lived in such homes. The homes of 78 per cent of the children of native white, 61 per cent of those of foreign born, and 55 per cent of those of colored mothers had flush toilets. Even more marked was the superiority of the homes of children of native white mothers as regards equipment with bathtubs; 69 per cent of them were so equipped, in comparison with 23 per cent of the homes of children of foreign-born parents and 18 per cent of the homes of children of colored parentage. (General Table VII, p. 146.)

In considering toilet provision the rural, sparsely settled nature of a considerable portion of Gary needs to be borne in mind. The extreme undesirability of the dry yard privy is most evident in the more closely built districts. In the South Side 927 children of preschool age—32 per cent of the entire number in the district—were dependent upon yard privies; all the 40 children of preschool age in Clark, 77 per cent of those in Tolleston, 67 per cent of those in Ridge Road and Glen Park, and 65 per cent of those in Lincoln Park had no better toilet accommodations than yard privies. Only in the South Side and Tolleston were yard privies found to be the sole toilet provision for a group of three or more families containing children 2 to 7 years of age.

Somewhat over half the children (52 per cent) were in homes which had flush closets within the dwelling; 14 per cent had water-closets outside the dwelling—in hall, on porch, or in cellar or yard. (General Table VIII, p. 147.)

A toilet within the apartment, for use by a single family, is increasingly recognized as a reasonable standard for city dwellers. Building codes are beginning to measure up to this. Realization of the physical discomforts and the moral danger attaching to inadequate toilet provision which tends to promiscuous use of water-closets and privies by large numbers of people, is growing. The State law in Indiana already referred to requires within each apartment in every tenement house erected after 1913 a separate indoor toilet, and for every tenement house existing prior to the act of 1913 at least one water-closet for every two families.<sup>5</sup> "Under no circumstances shall the general water-closet accommodations of any tenement house be permitted in the cellar or basement thereof."<sup>6</sup>

<sup>5</sup> Housing Law of the State of Indiana, Acts of 1913, secs. 34 and 62.

<sup>6</sup> *Ibid.*, sec. 61.

TABLE 14.—*Location and type of toilet, by number of families using.*

Location and type of toilet.	Children 2 to 7 years of age.										
	Total.		Number of families using toilet.								Not re-ported. <sup>1</sup>
			1		2		3		4 and over.		
	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	
Total.....	6,015	100.0	4,782	100.0	910	100.0	176	100.0	111	100.0	
Water-closet.....	3,964	65.9	3,264	68.3	534	58.7	91	51.7	66	59.5	9
In dwelling.....	3,141	52.2	3,015	63.0	120	13.2	4	2.3	2	1.8	.....
Outside dwelling.....	821	13.6	249	5.2	412	45.3	87	49.5	64	57.6	9
Location not reported.....	2				2	.2					.....
Yard privy.....	2,032	33.8	1,518	31.7	376	41.3	85	48.3	45	40.5	8
Type not reported.....	19	.3	.....	.....	.....	.....	.....	.....	.....	.....	19

<sup>1</sup> Per cent distribution not shown where base is less than 100.

Half the children of preschool age were living in homes which had a private water-closet within the dwelling (Table 14); the homes of 4 per cent more had a water-closet used by but one family, though located outside the dwelling; one-fourth lived in homes which had an individual yard privy. That is, four-fifths of all the children were in families which did not share a toilet with another family.

The families of 9 per cent of the children shared the use of a water-closet with one other family, and 6 per cent had a yard privy in common with another family. The families of 287 children, 5 per cent of the total, shared either water-closet or yard privy with two or more families. All these children, except the 23 who lived in the First Subdivision, resided in the South Side and Tolleston. (General Table VIII, pp. 147, 148.)

Approximately nine-tenths of the children with native white mothers, three-fourths of those with mothers of foreign birth, and three-fifths of those with colored mothers, lived in families with one toilet per family. Children in families using a toilet with at least two other families comprised 2 per cent of all preschool children with native white mothers, 6 per cent of those with foreign-born mothers, and 14 per cent of those with colored mothers. (General Table IX, p. 149.)

*Overcrowding within the home.*—The four-room dwelling has already been referred to as the type most commonly occupied in Gary by the families of children of preschool age. Very few children (less than 1 per cent) were living in one-room apartments; but 8 per cent lived in two rooms; slightly less than one-fourth lived in dwellings of three rooms or less. The South Side, with almost twice as many children 2 to 7 years of age as any other district, had the smallest

proportion (18 per cent) housed in dwellings of five rooms or more; in the First Subdivision 68 per cent of the children of preschool age lived in dwellings of at least five rooms; in Ambridge, 58 per cent. (General Table X, p. 150.)

TABLE 15.—*Number of persons in household.*

Number of persons in household.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
2.....	6	0.1
3.....	339	5.6
4.....	926	15.4
5.....	1,319	21.9
6.....	1,193	19.8
7.....	906	15.1
8 and over.....	1,303	21.7
Not reported.....	23	0.4

Two-thirds of all the families containing children included in the study numbered four to six members.<sup>7</sup> It was not unusual for a household to contain other persons in addition to the immediate family. Table 15 includes under persons in the household not only the parents and brothers and sisters of preschool children but other people who were living in the home. But a trifle more than one-twentieth of all the children were in households of less than four; somewhat over seven-tenths were in those totaling four to seven members; and slightly more than one-fifth in households of eight or more persons. The South Side and Tolleston led other districts<sup>a</sup> in the percentage of children living in households of eight or more members. A crude measure of overcrowding within a dwelling is afforded by the average number of persons per room. This measure ignores the variability in size of rooms, but is not without value. Almost three-fourths of the 6,015 children were living in households where the number of persons was less than double the number of rooms in the dwelling. One-fourth were in households overcrowded on the standard of two or more persons per room; one-twentieth were in homes which had an average of three or more persons per room. (Table 16.)

<sup>7</sup> See p. 12.

<sup>a</sup> Clark and Lincoln Park not included on account of small numbers.

TABLE 16.—Average number of persons in household per room, by color and nativity of mother.

Average number of persons in household per room.	Children 2 to 7 years of age.								
	Total.		Color and nativity of mother.						Not report- ed. <sup>1</sup>
			Native white.		Foreign-born white.		Negro.		
	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	
Total.....	6,015	100.0	1,843	100.0	3,934	100.0	232	100.0	
Less than 1.....	894	14.9	636	34.5	233	5.9	20	8.6	5
1, less than 1½.....	2,103	35.0	834	45.3	1,178	29.9	90	38.8	1
1½, less than 2.....	1,465	24.4	229	12.4	1,174	29.8	62	26.7	.....
2, less than 3.....	1,250	20.8	103	5.6	1,100	28.0	47	20.3	.....
3 and over.....	278	4.6	30	1.6	236	6.0	12	5.2	.....
Not reported.....	25	0.4	11	0.6	13	0.3	1	0.4	.....

<sup>1</sup> Per cent distribution not shown where base is less than 100.

The homes of children of mothers of foreign birth were more crowded than those of children of colored or of native white mothers, the difference being most marked between children of foreign-born mothers and those of native white mothers. Of all the children with mothers born outside the United States, 34 per cent lived in households which had two or more persons for every room, as compared with 26 per cent of the children of colored mothers and 7 per cent of the children whose mothers were native white. Conversely, the proportion of children of native white mothers in homes with fewer persons than rooms in the household was more than five times as large as the corresponding proportion among children with mothers of foreign birth. Besides the somewhat larger size of families among the foreign born (Table 1, p. 8.) there was an increased tendency on their part to keep lodgers. The proportion of colored families keeping lodgers was also high.

## ECONOMIC CONDITIONS.

The standard of living attainable by a family depends first of all upon the amount and adequacy of family income. Some incomes must be considered inadequate to supply family needs, no matter what intelligence, skill, and appreciation of values be presupposed in their expenditure.

In the normal family the chief financial responsibility ordinarily falls upon the father; in families in which the father is dead, has deserted, or is absent for other cause, another member usually assumes the main burden of supporting the children. In this study, the person with the heaviest financial responsibility for the family group, whether the father or some other member of the household,<sup>8</sup> has been designated chief breadwinner, and the chief breadwinner's annual earnings have been considered the best obtainable gauge of the family's economic status. Other income would be likely to be a less significant indication because often made up of contributions less regular and more temporary in nature than the chief breadwinner's earnings. Supplementary income from investments would commonly be found to accompany the chief breadwinner's earnings which were in themselves equal to family needs and therefore a satisfactory index to the family's standard of living. Mothers in Gary who were employed, for the most part kept lodgers, and their earnings could not be itemized with accuracy but merely represented gross receipts. The employment of the mother outside the home involved lessening the time and service which she could give to home and children, and might on this account be expected to yield less real benefit to the family than the sum total of her monetary addition to the family income would suggest.

In the homes of 57 per cent of the 6,015 children of preschool age in Gary, the chief breadwinner's earnings were the only income. The larger the chief breadwinners' earnings, the smaller the proportion of cases in which they were supplemented by income from other sources. Although the lowest earnings group based on aggregate earnings was smaller and the highest earnings group somewhat larger than the corresponding group based on the chief breadwinner's earnings alone, the differences were not excessive and were due chiefly to inclusion of the mother's earnings from lodgers; hence, they were not especially significant of improved economic status. (General Table XI, p. 151.)

---

<sup>8</sup> In the tabulations the mother was never classified as chief breadwinner, and if no person other than the mother assumed financial responsibility for the family it was considered as having no chief breadwinner. General Table XVI, p. 154. shows the proportion of mothers in each group who were gainfully employed and the amount they contributed to the support of the family.

The chief breadwinner's earnings were ascertained for the last calendar year (1917) completed prior to the time this study was made. This period was chosen instead of the exact 12 months immediately antedating the visit of the Children's Bureau agent to the family because it was believed mothers and fathers would be better able to recall the amount of earnings from January to December than for any other 12-month interval. The figures which they had worked out, or which had been furnished them by their employers, for their income-tax statements for the calendar year 1917, were fresh in the minds of many of the parents. The statements which the employers had prepared for this purpose, in fact, were in many cases shown to the Children's Bureau agents by the parents.

### Identity of chief breadwinner.

Of all the children of preschool age, 94 per cent were living in normal families—that is, families lacking neither father nor mother. In the families of 95 per cent of the children the father was the chief breadwinner. The fathers of 279 children (5 per cent) had died or had deserted their families, in 230 cases prior to 1917 and in 49 cases during that year. (Table 17.)

TABLE 17.—*Identity of chief breadwinner, by his annual earnings in 1917.*

Annual earnings of chief breadwinner in 1917.	Children 2 to 7 years of age.											
	Total.	Identity of chief breadwinner.									Not reported.	
		Father.		Other.								
				Father died 1917.		Father deserted 1917.		Father died or deserted before 1917.				
		Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	
Total.....	6,015	5,734	95.3	27	0.4	22	0.4	230	3.8	2	(1)	
Under \$1,050.....	1,774	1,708	96.3	11	.6	6	.3	49	2.8	.....	.....	
\$1,050 to \$1,849.....	2,949	2,872	97.4	4	.1	3	.1	68	2.3	2	0.1	
\$1,850 and over.....	819	794	96.9	2	.2	1	.1	22	2.7	.....	.....	
No chief breadwinner and no earnings.....	129	56	43.4	.....	.....	.....	.....	73	56.6	.....	.....	
Not reported.....	344	304	88.4	10	2.9	12	3.5	18	5.2	.....	.....	

<sup>1</sup> Less than one-tenth of 1 per cent.

### Annual earnings of chief breadwinner.

Chief breadwinners in 14 per cent of the families earned less than \$850 a year; the chief breadwinners of 28 per cent of the families, less than \$1,050 per annum. Almost three-fifths of the chief breadwinners (59 per cent) made less than \$1,450 in a twelvemonth. Eighteen per cent had earnings reaching \$1,450 but falling below \$1,850 a year, while 15 per cent reached or exceeded \$1,850.

TABLE 18—*Annual earnings of chief breadwinner in 1917.*

Annual earnings of chief breadwinner in 1917.	Families with children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	3,991	100.0
Under \$850.....	544	13.6
\$850 to \$1,049.....	577	14.5
\$1,050 to \$1,249.....	696	17.4
\$1,250 to \$1,449.....	540	13.5
\$1,450 to \$1,849.....	723	18.1
\$1,850 to \$2,249.....	269	6.7
\$2,250 and over.....	317	7.9
No chief breadwinner and no earnings.....	93	2.3
Not reported.....	232	5.8

Table 19 shows the size of the families of chief breadwinners earning specified amounts in 1917. The family with four members was the most frequent. Eleven per cent of these families of four had breadwinners earning less than \$850 a year; 17 per cent had chief breadwinners receiving at least \$1,850. Annual earnings less than \$850 were in 1917 unquestionably insufficient for the physical needs of families with as many as four members.

In 1,148 families, 29 per cent of the total, the earnings of the chief breadwinner averaged less than \$200 per person per year; and in 145 families (4 per cent) the average per person was less than \$100 a year. It must be borne in mind that most of the families were of normal composition, and therefore included at least two adults, the father and the mother. Thus in one-third of the families the chief breadwinners' earnings were seriously beneath the amount necessary for the maintenance of even the simplest, plainest family life consistent with health and decency.

TABLE 19.—*Number of persons in family, by annual earnings of chief breadwinner in 1917.*

Number of persons in family.	Families with children 2 to 7 years of age.									
	Annual earnings of chief breadwinner in 1917.									
	Total.	Under \$850.	\$850 to \$1,049.	\$1,050 to \$1,249.	\$1,250 to \$1,449.	\$1,450 to \$1,849.	\$1,850 to \$2,249.	\$2,250 and over.	No chief breadwinner and no earnings.	Not reported.
Total.....	3,991	544	577	696	540	723	269	317	93	232
1.....	36	7	4	4	1	1	2	3	2	12
2.....	55	8	4	6	2	8	3	2	15	7
3.....	575	48	54	81	82	140	59	58	19	34
4.....	1,049	114	135	132	159	215	78	96	18	52
5.....	954	143	146	165	125	167	64	85	18	36
6.....	627	110	114	100	86	100	30	32	9	46
7.....	351	53	66	80	47	41	16	17	8	23
8.....	193	27	35	41	27	24	8	17	2	12
9.....	89	21	11	21	4	13	7	4	2	6
10.....	26	2	4	3	4	4	.....	2	.....	2
11.....	15	6	1	3	2	3	.....	.....	.....	.....
12 and over.....	6	.....	2	3	1	.....	.....	.....	.....	.....
Not reported.....	15	.....	1	2	.....	7	2	1	.....	2



### **Nativity and earnings.**

While but 7 per cent of the children whose mothers were native white had chief breadwinners whose annual earnings failed to reach \$850, 17 per cent of the children whose mothers were of foreign birth, and 24 per cent of those with colored mothers, were in families in which the chief breadwinner's earnings fell below \$850. In the homes of one-half of the colored children the chief breadwinners did not make \$1,050 a year. Somewhat more than one-fourth of the children of native white mothers, less than one-twelfth of those whose mothers were born outside the United States, and barely 2 per cent of the children with colored parents, belonged in homes in which the chief breadwinner's earnings equaled or exceeded \$1,850 per annum. (General Table XII, p. 151.) Because of the greater earnings of the chief breadwinners in the native white families, their earnings were least often supplemented by earnings of other members of the family; conversely, earnings of chief breadwinners for colored children were most frequently added to by the efforts of other members of the family. (General Table XI, p. 151.) Judged on the bases of chief breadwinners' annual earnings and their adequacy, economic conditions were better in the homes of children whose mothers were native white than in the homes of those whose mothers were foreign born or colored.

### **Effect of literacy and ability to speak English upon earnings.**

Illiteracy and, in an English-speaking country, inability to speak English, may affect earning capacity as well as limit the kind of occupation which may be undertaken. Both these factors would have less potency in a year like 1917 when the demand for labor was great. Nevertheless, illiteracy and inability to speak English were apparently more largely associated with lower annual earnings than with higher in the homes containing children 2 to 7 years of age. In the earnings group below \$1,050 per annum, close to one-fourth of the children had fathers incapable of reading or writing in any language; one-fifth had fathers unable to speak English. Among the families with chief breadwinners earning \$1,850 or more per year, the fathers of only 2 per cent of the children were illiterate, and of only 1 per cent, unable to speak English.<sup>9</sup>

### **Employment of chief breadwinner.**

In a city which had its inception as a place to house employees of the steel industry, wage earners employed in this industry would be expected to bulk large in the working population. No other industry at all comparable to steel in size and importance had risen in Gary. Yet because the municipality had been healthy in de-

<sup>9</sup> Fathers and chief breadwinners, it must be remembered, were identical in 95 per cent of all cases.

velopment, there existed within it no inconsiderable number of wage earners not directly concerned with the manufacture of steel or steel products, and a class made up of professional men and women, employers, and people working for their own profit at their own risk. No distinction has been made here between wages and salaries, but classification has been purely with reference to whether the breadwinner was employer, employee, or working independently on his own account; i. e., briefly, into wage earners and nonwage earners. Of the 6,015 children of preschool age, 86 per cent were in families whose chief breadwinners worked for wages; in the families of 61 per cent the chief breadwinners were employees in the steel industry, and in 25 per cent, in other industries. One-eighth of the children had breadwinners who were nonwage earning workers. (Table 20.)

TABLE 20.—*Type of employment of chief breadwinner, by annual earnings in 1917.*

Type of employment of chief breadwinner.	Children 2 to 7 years of age.											
	Total.		Annual earnings of chief breadwinner in 1917.									
			Under \$1,050.		\$1,050 to \$1,849		\$1,850 and over.		No chief breadwin- ner and no earnings.		Not reported.	
	Num- ber.	Per cent dis- tribu- tion.	Num- ber.	Per cent dis- tribu- tion.	Num- ber.	Per cent dis- tribu- tion.	Num- ber.	Per cent dis- tribu- tion.	Num- ber.	Per cent dis- tribu- tion.	Num- ber.	Per cent dis- tribu- tion.
Total.....	6,015	100.0	1,774	100.0	2,949	100.0	819	100.0	129	100.0	344	100.0
Wage earners.....	5,141	85.5	1,651	93.1	2,727	92.5	580	70.8	1	.8	182	52.9
Steel industry.....	3,654	60.7	1,107	62.4	1,982	67.2	462	56.4			103	29.9
Other industry.....	1,478	24.6	539	30.4	743	25.2	118	14.4	1	.8	77	22.4
Not reported.....	9	.1	5	.3	2	.1					2	.6
Nonwage earners.....	756	12.6	121	6.8	222	7.5	239	29.2	29	22.5	145	42.2
Employers.....	512	8.5	58	3.3	142	4.8	194	23.7	23	17.8	95	27.6
Not employers.....	244	4.1	63	3.6	80	2.7	45	5.5	6	4.7	50	14.5
Not reported.....	118	2.0	2	.1					99	76.7	17	4.9

In each earnings group wage earners formed the largest proportion of chief breadwinners. As incomes from the chief breadwinners' efforts increased, however, the proportion of nonwage earners became greater. Sixteen per cent of the children with nonwage earning breadwinners and 32 per cent of those whose breadwinners worked for wages were in homes in which the chief breadwinners' earnings failed to reach \$1,050; 32 per cent of those in nonwage earners' families, and 11 per cent in wage earners' families, were in homes in which the chief breadwinner earned at least \$1,850 in a twelvemonth.

Among wage earners, earnings tended to average slightly higher for employees in steel than for employees in other industries. Little

significance can be attached to this tendency, however, because information as to such conditioning factors as hours and wages is wanting.

### **Nonemployment of chief breadwinner.<sup>10</sup>**

The bearing which nonemployment of the chief breadwinner of a family has upon family welfare is obvious. If this important source of income were cut off for a long period, most families would be forced speedily to extreme expedients to maintain that standard of home life to which they were accustomed. In work for social betterment and economic improvement, reduction of nonemployment is admittedly important. In 1917, because of war and the consequent diversion of a portion of the labor supply to the Army and Navy, nonemployment from certain causes usually operative might be expected to be small, and total nonemployment, therefore, less than in normal times of peace.

Chief breadwinners for 38 per cent of all the children 2 to 7 years of age were reported to have experienced no nonemployment in the year in question; breadwinners for an additional 24 per cent were nonemployed less than 1 month. Forty-two per cent of all the children had breadwinners nonemployed less than 3 months; 7 per cent, 3 but under 6 months; about 3 per cent, 6 to 12 months. The extent of nonemployment was greater among wage earners than among those not working for wages. Two-thirds of the children of wage earners, but somewhat less than one-fourth of those of nonwage earners, had chief breadwinners who were nonemployed for some period during the year.

Why wage earners were nonemployed at any time during 1917 was variously explained by mothers and fathers. Where several causes contributed to the total time lost from work, that cause has been considered major and representative which accounted for the greatest fraction of the time lost.

Illness of self or of some member of the family was the major cause of nonemployment most often reported. Well over one-fourth (28 per cent) of the children of wage earners had breadwinners whose chief cause of loss of time from work was illness. Almost one-tenth (9 per cent) had chief breadwinners whose major cause of absence from work lay not in themselves but in the industry which employed them. Six per cent had chief breadwinners whose leading cause of unemployment was lack of a job. Two per cent had breadwinners whose main reason for absence from work was an injury or accident. Only two-tenths of 1 per cent had breadwinners who lost more time

<sup>10</sup> Since the purpose of this classification is to show the length of time during which the family received no income from the chief breadwinner, nonemployment includes cases in which the income failed because of the death or desertion of the chief breadwinner during the year, as well as those in which the chief breadwinner was unemployed or sick. See General Table XIII, p. 152.

because of strike or lockout than from any other cause. Shutdown, no job, and strike or lockout each probably played in 1917 a less important role among the reasons for nonemployment than they would have played customarily in times of peace. Major causes of absence from work had practically the same order of precedence among wage earners in steel and wage earners in other industries. Shutdown, however, was a relatively much more important cause in the steel industry than in other industries. Sickness, too, seemed to bulk somewhat larger among steel employees. (General Table XIII, p. 152.)

The chief breadwinners of the families of 2,283 children of preschool age lost no pay through nonemployment. The effect of nonemployment upon earnings may be gauged in a measure by the distribution in earnings groups when nonemployment was nil and when it was present. In homes with less than \$1,050 as the chief breadwinner's annual earnings were 16 per cent of the children whose breadwinners suffered no period of nonemployment, and 40 per cent of the children whose chief breadwinners were nonemployed at some time during the year. In the group earning \$1,050 to \$1,849 a year, the respective percentages were 53 and 49; in the highest earnings class (\$1,850 or over per annum), they were 23 and 8. Even in an exceptional industrial year like 1917, nonemployment was an important factor in the economic well-being of wage earning men and their families. (Table 21.)

TABLE 21.—*Annual earnings of chief breadwinner, by nonemployment of chief breadwinner in 1917.*

Annual earnings of chief breadwinner in 1917.	Children 2 to 7 years of age.									No chief breadwinner.
	Total.		Nonemployment of chief breadwinner.							
			None.		Some.		Not reported.			
	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.		
Total.....	6,015	100.0	2,283	100.0	3,105	100.0	555	100.0	72	
Under \$1,050.....	1,774	29.5	364	15.9	1,235	39.8	175	31.5	.....	
\$1,050 to \$1,849.....	2,949	49.0	1,213	53.1	1,511	48.7	225	40.5	.....	
\$1,850 and over.....	819	13.6	531	23.3	243	7.8	45	8.1	.....	
No chief breadwinner and no earnings.....	129	2.1	20	0.9	33	1.1	4	0.7	72	
Not reported.....	344	5.7	155	6.8	83	2.7	106	19.1	.....	

### Gainful employment of mother.

Slightly over three-tenths of all the mothers had never been employed away from home either before or after marriage. Among Italian mothers the proportion (seven-tenths) who had never done outside work was much higher; among German mothers (one-eighth)

much lower. Less than one-fifth of all the mothers had ever been engaged in factory work.

Native white mothers had begun work away from home at a later age than foreign-born or colored mothers. Of the native white mothers, only about 1 in 13 had started work away from home before attaining the age of 14 years; among foreign-born women, on the contrary, 1 in 7, and among colored mothers 1 in 6, began work before reaching the age of 14. (General Table XIV, p. 153.)

In 1917, mothers in somewhat over three-fifths of the families containing children 2 to 7 years of age were not gainfully employed either within their homes or outside. The proportion was more nearly seven-tenths among native white mothers, while it was a little under one-half among colored mothers, and three-fifths among the foreign born. (General Table XV, p. 153.)

Table 22 shows whether the occupations of gainfully employed mothers took them outside the home or not. Mothers of 29 per cent of all the children kept lodgers; mothers of 4 per cent did some other type of gainful work at home; mothers of 5 per cent did work which took them outside the home. Thus neither outside work nor gainful work at home other than keeping lodgers was of great importance in its effect on the home life of the 6,015 children of preschool age. The chief industry of Gary was not one which offered many married women opportunities for work. Keeping lodgers, however, was an occupation of fairly common occurrence. This sometimes meant merely taking a roomer for part or all of the year. More often it entailed, especially among the foreign born, furnishing both room and board, or at least room and the mother's services as cook or laundress.

When visited in 1918, 30 per cent of the children with foreign-born mothers, 25 per cent of those with colored mothers, and 18 per cent of those whose mothers were native white were living in homes where lodgers were kept. Keeping lodgers was most prevalent among Lithuanian and Italian mothers.

TABLE 22.—*Mother's gainful occupation in 1917.*

Mother's gainful occupation in 1917.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
No employment.....	3,757	62.5
No lodgers.....	513	8.5
Other gainful home work.....	218	3.6
Outside work.....	295	4.9
Lodgers.....	1,730	28.8
No other gainful work.....	1,705	28.4
Other gainful work at home or outside.....	25	.4
Not reported.....	15	.2

### **Mother's earnings.**

Mothers' earnings were not very large; more often than not they totaled less than \$200 for the entire year. And inasmuch as these earnings were more often from keeping lodgers than from other occupations, it was impossible to state them except in the form of gross receipts. Earnings above expenditures incidental to furnishing room and board could not be ascertained.

With increase in the amount which chief breadwinners earned went a slight decrease in the number of mothers working for gain. The proportion of mothers gainfully employed was highest when there was no chief breadwinner in the family and consequently no income from his earnings. (General Table XVI, p. 154.)

### **Separation of mother and child on account of mother's employment.**

One child in 13 had at some time during his life been separated from his mother because of her employment.<sup>a</sup> Of the 471 children whose mothers at some time had had to leave them to go to work, 55 per cent were cared for at home, sometimes by an older child but more often by an adult in the household. A few children (13 per cent) were cared for in institutions, mainly day nurseries; approximately three-tenths were left in charge of an adult caretaker outside their own home. (General Table XVII, p. 156.)

If the annual earnings of the chief breadwinner for 1917 be considered as representative of the relative economic status of the families, not only in 1917 but for the longer period covered by the lives of the children born during the period from 1911 to 1915, further evidence may be shown that lower earnings of the chief breadwinner were accompanied by increased likelihood of the gainful employment of the mother. Of the children whose breadwinners earned less than \$1,050, 89 per cent had never been apart from their mothers because employment took the mother away from home; when chief breadwinner's earnings were as much as \$1,850 per annum, 98 per cent of the children had never been separated from their mothers. Separation of mother and child was most prevalent in those families in which there were no earnings and no chief breadwinner. (General Table XVIII, p. 157.)

Colored mothers more often than native white or foreign born had to leave their children to go to work. It will be recalled that earnings of chief breadwinners were lower among the colored families than among others, and that colored mothers were more likely to be gainfully employed than native white or foreign-born mothers.

---

<sup>a</sup> This classification includes those separated only during the mothers' working hours and those away from their mothers both day and night.

**Household help.**

Other conditions being similar, it ordinarily holds that the more ample the family income the greater the chance that some part of it may be apportioned to providing the mother with assistance in some of her household tasks. When the household contains many members, the older children or some adult who is not employed outside the home may help the mother. Three-fifths of the children of preschool age were living in homes where the mother had no help in the performance of daily household tasks. The proportion of mothers who received no help was largest among the foreign born and smallest among the native white. Only 2 per cent of the children whose mothers were foreign born lived in homes where the mothers had full-time hired help with housework, as compared with 7 per cent among the children of native white mothers. Of all the children included in the study, one-fifth were in homes in which the mother had some paid assistance. The more frequent utilization of paid help among native white mothers than among foreign-born or colored mothers is partly explained by difference in racial custom, but it is also partly due to the difference in the earnings of the chief breadwinner. When these earnings were less than \$1,050, the mothers of only 8 per cent of the children had any hired help; when they were at least \$1,850, the mothers of 51 per cent of the children had hired assistance. The proportion of children whose mothers had no help, either hired or free, was practically twice as large when the chief breadwinners earned less than \$1,050 per annum as it was when the chief breadwinners' earnings were \$1,850 or more. (General Table XIX, p. 158.)

## CHILD CARE AND HYGIENE.

Within the past few years guiding principles in child care and hygiene have been given much clearer formulation and received much wider dissemination than even a decade ago. Knowledge and recognition of the essential requirements of a young child with reference to nutrition, protection from heat or cold, sleep and rest, exercise and fresh air, have increased. Moreover, expression has recently been given to minimum standards below which a community should not fall if it is to give proper care to its children.<sup>11</sup>

Certain items present themselves as essential in considering what favors the healthy growth of the child of preschool age and what a program of care for such a child should embody. If his needs as a growing organism are to be met satisfactorily it is perhaps of foremost importance that he be provided with suitable meals at regular hours daily. It is well, too, that milk have a place in his diet and that his evening meal be not so heavy as to tax his digestive powers unduly and interfere with his sleep. He needs plenty of rest at night. Regular hours for retiring and rising, and the use of a separate bed in a room with an open window, and of night clothes other than the garments he wears by day, tend to insure sleep of the proper amount and quality. At least a weekly bath the year round seems necessary to maintain healthful cleanliness.

These items of care—suitable meals, milk as part of the diet, a light evening meal, regular hours for eating, for retiring, for rising, 12 hours rest at night, a separate bed, a bedroom with window open winter and summer, night clothes not worn by day, and a weekly bath—are not all of equal importance to the well-being of a child 2 to 7 years of age. Together, it is likely that they present a program too exacting to be practical. It may be conceded that children undoubtedly do thrive in the absence of some of them. Considered from the standpoint of the ideal, however, it is questionable whether any one of the items enumerated should be completely ignored or even modified seriously; and yet only 17 of the 6,015 children of preschool age studied received all of these items of care.

### Baths.

Only 21 children, all of them with foreign-born mothers, failed to receive at least one bath a week in the summer time. In winter 361 children (6 per cent of the total) were not bathed as often as once a week. A third of the children with Italian mothers had no weekly

---

<sup>11</sup> Standards of Child Welfare, U. S. Children's Bureau Publication No. 60. Washington, 1919.



bath in winter, a proportion markedly above that in any other nationality group.

Need for more frequent bathing in summer was very generally recognized in practice. In winter, 61 per cent of all the children were bathed not more frequently than once a week; only 18 per cent were bathed but once a week in summer. The proportion with seven or more baths per week in winter was only 3 per cent; in summer it was 37 per cent. Children of foreign-born mothers were bathed less often than children of native white or of colored mothers whatever the season of the year. In this connection should be mentioned again the better facilities for cleanliness which the homes of the children of native white mothers possessed. These homes were superior to the homes of children with mothers born outside the United States in provision of all modern conveniences but especially in provision of bathtubs. Sixty-nine per cent of the children of native white mothers, as compared with 23 per cent of those of foreign-born mothers, lived in homes equipped with bathtubs. (General Tables XX, p. 159, and VII, p. 146.)

All mothers tended to bathe children 2, 3, and 4 years old more frequently than children who were 5, 6, and 7.

### Time outdoors.

The infant is dependent upon his elders to a very much greater degree than is the child 2 to 7 years of age. Freedom which comes with ability to walk, to run, to act independently, makes it of prime importance that children of preschool age should be so housed that they can enjoy light, air, sunshine, and outdoor play.

Comment has already been made on Gary's regulation of building, its provision of parks, its municipal playground, its playgrounds in connection with the schools. The character of the housing in the city has also been discussed. (See pp. 16.) Much of the city was still rural in character in 1918, but congested sections were not altogether lacking. The acquisition of space for playgrounds had not yet become a problem of clearing areas preempted by buildings; the city's ambition to continue its program for small parks and playgrounds "until a playground or small park could be reached by practically every child in Gary without crossing the right of way of a railroad"<sup>12</sup> was not yet so difficult of accomplishment as it would have been in an older, more rigid community; it was neither so difficult nor so costly to attain as it would be later on when the city was more thickly settled.

With reference to the need for playgrounds and to the shortcomings of many industrial cities as environments for the rearing of children, in the United States as in Scotland "one argument is beyond con-

<sup>12</sup> Annual message of the mayor to the city council, 1919.

trovery; the streets are too dangerous for young children. It follows that special play places, indoor and outdoor, are primary factors in the promotion of child nurture. The play center \* \* \* is an essential counteractive to the debased housing that has come to us through the too rapid concentration of people in ill-planned cities." <sup>13</sup>

Efforts were made to ascertain how many hours the children of preschool age were getting out of doors and where they played at the time this study was being carried on—the summer of 1918.<sup>14</sup> Yards, courts, passageways between houses, porches, streets, alleys, vacant lots, and open dunes as well as school and city playgrounds and parks were utilized for play purposes, as the accompanying illustrations show. An abundance of sand was available for sand piles.

TABLE 23.—*Time spent out of doors day preceding agent's visit, by color and nativity of mother.*

Color and nativity of mother.	Children 2 to 7 years of age.						
	Total.	Time out of doors on preceding day.					
		None.	Less than 1 hour.	1 hour, less than 2.	2 hours, less than 3.	3 hours, less than 5.	5 hours and over.
Total.....	6,015	35	15	60	136	679	4,944
Native white.....	1,843	21	8	32	60	301	1,366
Foreign-born white.....	3,934	14	6	25	71	358	3,376
Negro.....	232	.....	1	3	4	19	198
Not reported.....	6	.....	.....	.....	1	1	4

Thirty-five children had not had any time outdoors the day before the Children's Bureau agent visited them. Slightly over four-fifths of all the children, however, had spent at least five hours outside the house, and only about 1 child in 25 had had less than three hours outdoors the previous day. When the mother had no one to whose care the child could be intrusted while outdoors and was herself unable to leave her household tasks to watch over the child's play and unwilling to permit him to play unguarded, the time outdoors was necessarily limited. (Table 23.)

The advantage which the one-family house with yard holds over the multiple tenement or apartment building of many floors is perhaps most important in housing children 2 to 7 years of age. The preschool children in Gary were fortunate in that almost three times as many of them lived in one- or two-family houses, as in buildings sheltering three or more families.

<sup>13</sup> Carnegie United Kingdom Trust Report on the Physical Welfare of Mothers and Children, Scotland, Vol. III, p. 343. Edinburgh, 1917.

<sup>14</sup> The time spent outdoors by the child the day preceding the visit of the Children's Bureau agent was ascertained. If the child's illness or some other special cause had affected his manner of spending the preceding day the child was not included among those for whom time outdoors was reported.



PLATE XIII.—PLAYING IN THE SAND.

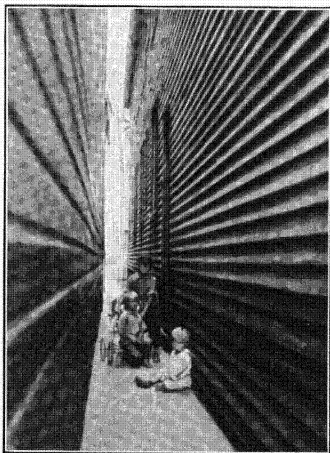


PLATE XIV.—PLAYING IN A PASSAGEWAY.



## Sleep.

Estimates of the amount of sleep requisite for children 2 to 7 years of age vary. The child 2 or 3 years old probably should have more sleep than the boy or girl at the other extreme of this preschool age group. The child 2 to 7 years of age requires less sleep than does an infant, but a greater amount than that which suffices for an older child or an adult. Twelve hours' sleep out of the 24 is probably not too great an amount for children 2 to 7 years of age; 10 hours' night rest would assuredly not be excessive.<sup>15</sup>

In this study the time at which the child of preschool age went to bed the night before and the hour at which he arose upon the day when the Children's Bureau agent visited him were ascertained. If any unusual circumstance had affected the amount of time a child slept during the 24 hours preceding the agent's visit, so that it was not typical of his customary rest, the child was not included among those whose hours of night rest were reported. For all other children the hours between retiring and rising have been estimated and it has been assumed that they indicate the extent of night rest or sleep. The hours of actual sleep were probably somewhat less than the total so calculated, since no allowance is made in it for delay in falling asleep at night, for lying awake before rising in the morning, or for disturbed rest during the night.

Practically four-fifths of the children were not taking a daytime nap in March, 1918—62 per cent of those 2 or 3 years of age, 88 per cent of those 4 or 5 years of age, and 98 per cent of those 6 or 7 no longer slept during the daytime. For the greater proportion of the 6,015 children, then, night sleep was the only kind obtained.

Discussion of the amount of night rest has perhaps greatest significance with reference to the 4,767 children who were not accustomed to having a daytime nap. Of the 2- or 3-year-old children in this group 42 per cent slept less than 12 hours each night; two-thirds of those 4 or 5, and four-fifths of those 6 or 7 years old had less than 12 hours rest out of 24. About 1 child in 17 among those 2 and 3 years of age, 1 in 12 among those 4 or 5 years of age, and 1 in 7 among those 6 or 7 years of age, slept less than 10 hours a night and had no other sleep in a 24-hour period. In view of these figures it is a conservative estimate that at least 1 out of every 12 children of preschool age in Gary was not habitually securing the amount of sleep required for his best development. (General Table XXI, p. 160.)

Differences in habit between children with mothers of different races or nativity were not marked. Children of native white mothers

<sup>15</sup> Holt, L. Emmett, M. D.: *Diseases of Infancy and Childhood*, p. 6. New York, 1914. Doctor Holt advocates for a child 2 years of age 13 or 14 hours sleep to be taken 11 or 12 hours at night, and 1 or 2 hours in daytime nap. He believes a child 4 years of age requires 11 or 12 hours' sleep and holds it desirable that the daily nap be maintained until the child is 5 years of age. For a child 6 to 10 years of age he designates 10 or 11 hours of sleep as a fitting amount.

and of colored mothers were more likely to take a nap daily than were children of mothers born outside the United States. The proportion of children whose mothers were native white taking less than 10 hours' rest at night (10 per cent) was slightly less than the proportion among children with foreign-born mothers (12 per cent), and was considerably smaller than that among colored children (14 per cent). The proportion of children sleeping less than 12 hours at night varied very slightly according to race and nativity of the mothers. (General Table XXI, p. 160.)

### Regularity of retiring and of rising.

Of all children of preschool age 62 per cent observed a regular hour for going to bed; 59 per cent had a regular time for rising.<sup>16</sup> From the standpoint of the child's welfare a regular hour for retiring was probably of greater importance than a set hour for getting up, since time and regularity of retiring in a measure condition the hour at which a child will awake naturally in the morning. Moreover, the commencing of household tasks is likely to affect the length of time which a child may be allowed to sleep in the morning, hence the need for him to go to bed early enough at night to admit of 10 or 12 hours' rest before the convenient time for him to arise.

Having a regular hour for retiring and for rising was slightly more common among the older children than among those 2, 3, or 4 years old.

TABLE 24.—*Hour and regularity of retiring, by age of child.*

Hour and regularity of retiring.	Children 2 to 7 years of age.													
	Total.		Age of child.											
			2 years, under 3.		3 years, under 4.		4 years, under 5.		5 years, under 6.		6 years, under 7.		7 years, under 8.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	6,015	100.0	1,079	100.0	1,437	100.0	1,233	100.0	1,100	100.0	1,008	100.0	156	100.0
No regular hour.....	2,162	35.9	414	38.4	534	37.2	436	35.4	374	34.0	354	35.1	50	32.1
Regular hour.....	3,704	61.6	635	58.9	869	60.5	764	62.0	696	63.3	635	63.0	103	66.0
Before 7.....	61	1.0	17	1.6	24	1.7	10	0.8	5	0.5	4	0.4	1	0.6
Between 7 and 8.....	517	8.6	123	11.4	143	10.0	98	7.9	96	8.7	47	4.7	10	6.4
Between 8 and 9.....	1,521	25.3	249	23.1	343	23.9	323	26.2	278	25.3	279	27.7	47	30.1
Between 9 and 10.....	1,319	21.9	193	17.9	293	20.4	268	21.7	271	24.6	256	25.4	38	24.4
10 and later.....	283	4.7	53	4.9	66	4.6	62	5.0	46	4.2	49	4.9	7	4.5
Not reported.....	3	( <sup>2</sup> )					3	0.2						
Not reported whether regular hour.....	149	2.5	30	2.8	34	2.4	33	2.7	30	2.7	19	1.9	3	1.9

<sup>1</sup> Per cent distribution not shown where base is less than 100.

<sup>2</sup> Less than one-tenth of 1 per cent.

Thirty-five per cent of the 6,015 children included in this study retired regularly before 9 o'clock each evening. About 1 child in 10

<sup>16</sup> In interpreting reports as to a child's habits, a variation in mealtime or in time of rising or retiring greater than one-half hour was considered as destroying regularity.

went to bed each night before 8 o'clock. Somewhat over one-fifth of the children stayed up until 9, and one-twentieth were in the habit of not going to bed until 10 or later. The age of the child affected scarcely at all the hour at which he was put to bed. Twenty-four per cent of the children 2 and 3 years of age, 28 per cent of those 4 and 5, and 30 per cent of those 6 or 7 years of age did not retire before the clock struck 9. (Table 24.)

Observing a regular hour for going to bed was most common among children of native white mothers. Of these children 80 per cent retired at a regular hour while but 63 per cent of the negro children and 53 per cent of those with foreign-born mothers went to bed at a stipulated time night after night. Among those with regularity of habit in this respect, 12 per cent of those with foreign-born mothers and 20 per cent of those with colored or with native white mothers were going to bed before 8 o'clock; 49 per cent of the children with mothers of foreign birth, 38 per cent of the colored children, and 36 per cent of the children whose mothers were native white were retiring at 9 or later. (General Table XXII, p. 162.)

Homes in which the chief breadwinner's annual earnings were most ample were most likely to observe regular hours for putting children of preschool age to bed. In families in which the annual earnings of the chief breadwinner fell below \$1,050, 46 per cent of the children had no regular hour for going to bed; in homes in which the breadwinner earned at least \$1,850 in a year, only 18 per cent of the children failed to observe set hours for retiring. Of the children whose chief breadwinners earned less than \$1,050 a year, 69 per cent either had no regular hour for going to bed or else habitually retired at 9 or later; in families in which the breadwinner's earnings reached or exceeded \$1,850 a year, only 47 per cent of the preschool children either had irregular hours or customarily retired after 9 o'clock. (General Table XXIII, p. 163.)

The regular time for going to bed that was most often reported was between 8 and 9 o'clock; the most usual regular time for rising was between 7 and 8 o'clock. (General Table XXIV, p. 164.) Only 1 child in 9 was in the habit of getting up before 7; 1 in 5 slept until 8 or later. Regularity of life in respect to hour of rising was greatest in homes with native white mothers. Three-fourths of the children with native white mothers and one-half of those with colored or foreign-born mothers had a regular hour for getting up. (General Table XXV, p. 165.) Life was more systematized, too, in regularity of rising for those children who belonged in homes wherein the chief breadwinner's earnings were greatest. Only 22 per cent of the children whose breadwinners earned at least \$1,850 did not observe a regular hour for rising; 47 per cent of those whose breadwinners earned less than \$1,050 had no regular hour.

### Conditions of night rest.

The quality of sleep which a child gets will be affected not only by his physical condition and individual idiosyncrasies but also by his surroundings while asleep. The same number of hours in bed will yield greater rest and be of more value if the bed is clean, comfortable, and uncrowded; the bed and night clothing suitable and sufficient; the bedroom quiet, adequately ventilated, and not made the common sleeping place of too many persons diverse in their habits and sleep requirements.

*Night clothing.*—The use of suitable night clothing other than garments worn during the day is considered desirable hygienically. A little more than one-third of the children 2 to 7 years of age were, at the time of the study, sleeping in some of the clothes they wore by day; approximately two-thirds were using night clothes which formed no part of their daytime attire. Among children of Italian mothers these proportions were reversed. Children of Lithuanian mothers were also more likely to sleep in some part of their day clothing. Of the children of native white mothers 20 per cent, and of the colored children 13 per cent, used as night clothing part of their daytime apparel; 42 per cent of the children whose mothers were of foreign birth did so. (General Table XXVI, p. 166.)

*Ventilation of bedroom.*—The only means of judging whether a child was receiving fresh air at night was to ascertain the mother's custom as to keeping the windows of the child's bedroom open or shut. Children sleeping in rooms the windows of which were kept closed both winter and summer numbered 156 (3 per cent); 46 per cent occupied bedrooms the windows of which were opened only in summer; somewhat more than one-half (52 per cent) of the children had sleeping rooms with windows open the year round. Seventy-seven per cent of the children of native white mothers, 53 per cent of those of colored mothers, and 40 per cent of those with mothers born outside the United States occupied sleeping rooms in which the windows were opened every night whatever the season. Twenty-two per cent of the children with native white mothers, 41 per cent of the colored children, and 57 per cent of those whose mothers were foreign born slept in rooms with windows open in summer only. (Table 25.)

Bedroom windows were much more likely to be opened only in summer in homes where the breadwinner's annual earnings did not reach \$1,050. Desire to conserve heat and warmth may partially explain this. When the breadwinner's earnings amounted to \$1,850 or more, 77 per cent of the children slept in rooms with windows open both summer and winter, as contrasted with 38 per cent of the children whose breadwinners earned under \$1,050 a year.



TABLE 25.—*Ventilation of bedroom, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.								
	Total.	Sleeping with bedroom windows open.							
		Summer and winter.		One season only.		Neither season.		Not reported.	
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
Total.....	6,015	3,099	51.5	2,752	45.8	156	2.6	8	0.1
Native white.....	1,843	1,416	76.8	408	22.2	18	1.0	1	.1
Foreign-born white.....	3,934	1,555	39.5	2,248	57.2	124	3.2	7	.2
Polish.....	923	278	30.1	618	66.9	27	2.9		
Serbo-Croatian.....	587	225	38.3	337	57.5	22	3.7	3	.5
Slovak.....	546	173	31.7	346	63.4	27	4.9		
Magyar.....	291	117	40.2	161	55.3	13	4.5		
Italian.....	265	103	38.9	156	58.9	6	2.3		
German.....	228	131	57.5	92	40.4	4	1.8	1	.4
Lithuanian.....	225	68	30.2	147	65.3	10	4.4		
All other.....	869	460	52.9	391	45.0	15	1.7	3	.3
Negro.....	232	122	52.6	96	41.4	14	6.0		
Not reported.....	6	6							

<sup>1</sup> Not shown where base is less than 100.

*Number of occupants of child's bedroom.*—Four per cent of the 6,015 children of preschool age in Gary occupied bedrooms alone; 24 per cent slept two in a room; 30 per cent had bedrooms accommodating three persons; 20 per cent slept four in a room; 13 per cent, five in a room, and 8 per cent, six or more in a room. (Table 26.)

Seven per cent of the children sharing a bedroom with four or more other persons were accustomed to having the bedroom windows open summer and winter; 13 per cent sleeping five or more in a room were used to having windows open in summer but closed in winter.

TABLE 26.—*Number of additional occupants of child's bedroom, by color and nativity of mother.*

Number of additional occupants of child's bedroom.	Children 2 to 7 years of age.								
	Total.		Color and nativity of mother.						Not re-ported. <sup>1</sup>
			Native white.		Foreign-born white.		Negro.		
			Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	
Total.....	6,015	100.0	1,843	100.0	3,934	100.0	232	100.0	6
None.....	261	4.3	151	8.2	91	2.3	15	6.5	4
1.....	1,415	23.5	617	33.5	728	18.5	69	29.7	1
2.....	1,800	29.9	617	33.5	1,096	27.9	86	37.1	1
3.....	1,232	20.5	295	16.0	903	23.0	34	14.7	.....
4.....	808	13.4	97	5.3	695	17.7	16	6.9	.....
5 and over.....	469	7.8	53	2.9	409	10.4	7	3.0	.....
Not reported.....	30	0.5	13	0.7	12	0.3	5	2.2	.....

<sup>1</sup> Per cent distribution not shown where base is less than 100.

The households in which mothers were foreign born, it will be recalled, were larger and more crowded than households with native white mothers. (See p. 29.) The bedrooms in which 28 per cent of the children with mothers of foreign birth slept were each occupied by five or more persons nightly; only 8 per cent of the children of native white mothers, and 10 per cent of the colored children, used bedrooms in common with so many occupants.

Bedrooms for children were more crowded in families where chief breadwinner's earnings were low. Practically half the children whose breadwinners earned less than \$1,050 a year were sharing bedrooms with three or more other persons; 3 out of 10 were sleeping in the same room with four or more other people. In the homes where the chief breadwinner's earnings were \$1,850 or more, 1 child in 5 had a room with three or more other persons, and 1 in 12 slept in a bedroom with four or more additional occupants. (Table 27.)

TABLE 27.—*Number of additional occupants of child's bedroom, by annual earnings of chief breadwinner in 1917.*

Number of additional occupants of child's bedroom.	Children 2 to 7 years of age.											
	Total.		Annual earnings of chief breadwinner in 1917.									
			Under \$1,050.		\$1,050 to \$1,849.		\$1,850 and over.		No chief breadwinner and no earnings.		Not reported.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	6,015	100.0	1,774	100.0	2,949	100.0	819	100.0	129	100.0	344	100.0
None.....	261	4.3	30	1.7	118	4.0	83	10.1	7	5.4	23	6.7
1.....	1,415	23.5	313	17.6	688	23.3	298	36.4	35	27.1	81	23.5
2.....	1,800	29.9	464	26.2	904	30.7	262	32.0	43	33.3	127	36.9
3.....	1,232	20.5	412	23.2	632	21.4	103	12.6	28	21.7	57	16.6
4.....	808	13.4	318	17.9	399	13.5	45	5.5	11	8.5	35	10.2
5 and over.....	469	7.8	228	12.9	197	6.7	22	2.7	4	3.1	18	5.2
Not reported.....	30	0.5	9	0.5	11	0.4	6	0.7	1	0.8	3	0.9

It was unusual for the children of preschool age to sleep in rooms with persons not members of the family. Thirty-five children, however (less than 1 per cent) were sharing bedrooms with such persons.

One child in 20 was getting less than 10 hours' rest at night in a bedroom with four or more occupants; three-tenths of all the children were sleeping less than 12 hours, in bedrooms accommodating four or more persons. That the child sleeping in a room with several other individuals tends not only to secure sleep less undisturbed in nature but also less sleep is indicated by the fact that but 8 per cent of the children occupying rooms alone slept less than 10 hours nightly,

whereas 15 per cent of those sharing sleeping quarters with five or more additional occupants had less than 10 hours' rest at night. (General Table XXVII, p. 167.)

The following examples are extreme, but they suggest how crowding the bedroom may affect the opportunity for a preschool child to obtain restful and sufficient sleep. A family of 10 lived in a three-room house. The father was dead. The oldest child was a girl 14, the youngest a 6-months-old baby. All 10 in the family slept in one bedroom. In one bed slept 4 brothers (2 of preschool age); in another 3 sisters (one 5 years old); a 20-months-old child had a bed to himself. The preschool children went to bed at irregular hours and usually had not more than 9 hours' sleep.

Another family of 10 lived in one room which had to serve all purposes. It was very large and was apparently intended as the basement and foundation for a house which when completed would afford plenty of space. Three sisters 14 years of age and over occupied a bed with one preschool girl; 2 brothers slept in another bed with a 4-year-old boy.

The sleeping needs and requirements of the individuals in these two family groups necessarily varied because of the range in age. In the second home the necessity of using the single room for every purpose of daily family life must have further imperiled the chance of the preschool child to sleep in surroundings restful and quiet.

*Number of child's bedfellows.*—As a rule, merely sharing a room with others offers less likelihood of disturbed sleep for the 2- to 7-year old child than sharing a bed. Twenty-three per cent of the children had separate beds; 45 per cent had one bedfellow; 27 per cent shared beds with two other persons; one child in 22 was sleeping with at least three additional individuals. Among children with native white mothers, the proportion sleeping alone (38 per cent) was double or more than double the corresponding proportions among colored children (19 per cent) and those with mothers of foreign birth (16 per cent). Among Slovaks and Poles only 1 child in 10 was sleeping alone. The bedfellows of the preschool children were most likely to be other children in the family, their brothers or sisters under 14 years of age. One child in 8, however, was sleeping with adults and children.<sup>17</sup> One in 5 was sleeping with adults only. Among children with native white mothers the proportion having both adult and child bedfellows was 5 per cent; among colored children it was 10 per cent; among children of foreign-born mothers, 16 per cent. (General Table XXVIII, p. 168.)

<sup>17</sup> The term "adult" has here been used to indicate a person 14 years of age or older.

TABLE 28.—*Number of hours' rest at night, by number of additional occupants of child's bed.*

Number of hours' rest at night.	Children 2 to 7 years of age.					
	Total.	Number of additional occupants of child's bed.				
		None.	1	2	3 and over.	Not reported.
Total.....	6,015	1,360	2,706	1,640	278	31
Less than 8.....	16	3	8	5	.....	.....
8, less than 9.....	93	23	38	30	2	.....
9, less than 10.....	589	98	254	192	45	.....
10, less than 11.....	1,669	353	807	449	59	1
11, less than 12.....	2,119	480	958	574	106	1
12, less than 13.....	1,103	286	484	277	55	1
13, less than 14.....	264	84	103	70	4	3
14 and over.....	60	18	26	15	1	.....
Not reported.....	102	15	28	28	6	25

Crowding the bed may reasonably be supposed to affect adversely both the quality and the amount of sleep which the occupants are likely to obtain. Nine per cent of the children of preschool age sleeping alone got less than 10 hours' night rest; 14 per cent of those with two, and 17 per cent of those with three or more bedfellows spent less than 10 hours in bed at night. Of the total number of children, 227 (4 per cent) slept less than 10 hours three in a bed, and 1,250 (21 per cent) slept less than 12 hours. Forty-seven children had beds with four or more occupants and slept less than 10 hours; 212 children had less than 12 hours' rest nightly in beds each containing four or more persons. (Table 28.)

### Dental care.

"Two decades ago," wrote Terman in 1914, "the mouth of the school child was to the average educated person an unknown quantity. Even the dentist and physician were not aware of the actual conditions except by inference for the simple reason that only 5 or 10 per cent of the children ever came to them for examinations. It remained for the school doctor and school dentist to ascertain the real facts."<sup>18</sup> When once instituted, examinations of school children demonstrated that dental caries were very common among them. Investigation also revealed a great lack of care of children's teeth and showed that it was unusual for children to visit dentists. Dental defects and lack of care in children of preschool age received even tardier recognition. Need for paying any attention to temporary teeth and their condition is still far from being widely realized, though activities of the past few years, such as the modern health crusade, have helped greatly. Inaugurating toothbrush drills has not

<sup>18</sup> Terman, Lewis M.: *The Hygiene of the School Child*, p. 169. Houghton Mifflin Co. Boston, 1914.

only benefited school children but also reacted favorably upon the dental care of preschool children.

Eighty-eight per cent of the children of preschool age in Gary had never visited a dentist. Children of native white mothers were more likely to have been taken to dentists than children of foreign-born mothers or colored children. Of the children of native white mothers, about 1 in 5 had been to the dentist at least once; of those whose mothers were born outside the United States, about 1 in 11; of the children of colored mothers, about 1 in 21. The 1,164 children 6 or 7 years of age had had more opportunity than the others for being taken to a dentist; only 76 per cent of the children of these ages, as against 96 per cent of those 2 and 3 years of age and 85 per cent of those 4 and 5 years of age, had never been to a dentist. Of the 6- and 7-year-old children of native white mothers, only 62 per cent had had no dental attention.

Children who had visited a dentist only to have teeth extracted numbered 246 (4 per cent); 475 children (8 per cent) had gone to the dentist for other reasons. Seven per cent of all the children had made but one visit to a dentist; 120 children (approximately 2 per cent) had visited a dentist three times or more. (General Table XXIX, p. 169.)

In the families containing children of preschool age, more adequate chief breadwinner's earnings and an increased likelihood that the children would have received dental attention were coincident. When the chief breadwinner earned less than \$1,050, 92 per cent, and when his earnings were \$1,850 or more per annum, 78 per cent, of the children had never been taken to a dentist. Of the boys and girls 6 and 7 years of age whose breadwinner's earnings were most ample (\$1,850 or over per year) only 58 per cent had not made at least one visit to a dentist. (General Table XXX, p. 170.)



## PART II. DIET OF THE CHILDREN.

### METHOD OF STUDY.

#### Securing diet records.

Owing to the extent and nature of the whole investigation, an exact quantitative study of the diet of each child for even a short period of time was entirely impracticable. However, because of the prime importance of diet in the normal growth and development of children, an effort was made to learn all that was possible by the schedule method concerning the feeding of these children of pre-school age. The 6,015 diet records upon which this section of the report is based were secured, along with other information relating to the children, by experienced field agents in their visits to all the homes in Gary where a child born within the period 1911 to 1915, inclusive, was living. The mother was asked by the agent to state in detail the diet which the child had had on the day preceding the agent's visit. If the preceding day was Sunday, or if the diet for any reason was not the usual one, the record for another day was taken instead and a note to this effect entered on the schedule. Information was obtained concerning all food eaten by the children both at meals and between meals; the number, hours, and regularity of meals; and the total amount of milk used as a beverage. Agents were directed also to secure, when possible, estimates of the amounts of foods other than milk taken.

#### Limitations of material.

The material thus obtained has certain definite limitations incident to the method of securing the data. Chief among these are: (1) The diet is for a single day; (2) it is not quantitative to any great extent; and (3) its accuracy depends on the mother's memory. In respect to these obvious weaknesses the following points should be considered:

1. Although the diet was for but a single day and may have been either better or worse than the usual one, it was doubtless fairly typical for the majority of the children, since most families have moderately regular dietary habits. Further, every effort was made to exclude nontypical days. Feast days and fast days, and days when the children were sick or on special diets, were omitted. And even if certain of the diets are in some degree exceptional, when large numbers of one-day diets are considered—such as the 6,015 diets available for this report—the picture of the conditions found is

doubtless true in its main outlines. It is believed, therefore, that these diets are sufficiently representative of the customary ones of the children studied to yield valuable conclusions.

2. Without knowing the exact amounts of food eaten it is impossible to say whether the energy value of a diet is sufficient to cover a child's needs, and the value of the data here given is limited by this fact. But it is possible to determine much concerning the qualitative adequacy of a diet when, as in the present instance, information is available not only as to the kinds of foods eaten, but also covering the approximate amounts of milk and a rough indication of the amounts of other foods. In this study, diets qualitatively adequate were adjudged satisfactory on the assumption that normal amounts of food were eaten. The diets were thus rated too favorably rather than too unfavorably—a failing in the right direction in a study revealing uniformly poor conditions.

3. Although the mother's memory was trusted for the data, it was necessary for her to recall the diet of the preceding day only—not a difficult matter. Moreover, every effort was made by the agent to assist her to make the record complete and accurate. Special inquiries were made regarding certain foods, as, for instance, whether the bread had butter on it; what, if anything, was eaten on the potatoes; whether the child really had no milk or fruit; and what was eaten between meals. It is believed that by questioning the mother in regard to certain important foods, fairly complete statements as to the foods eaten by the children were obtained; and any slight omissions or inaccuracies in a few cases would not materially affect the findings of so large a number of cases.

These limitations should be borne in mind in considering the picture, drawn from the material contained in the 6,015 diet records, of how these preschool children of Gary were being fed.

### Grading of diets.

Certain items of diet stood out prominently as deserving individual tabulation—as, the amount of milk used; the presence or absence of vegetables,<sup>1</sup> fruits, cereals, potatoes, and coffee or tea; the regularity and number of meals; the suitability of foods; the custom regarding eating between meals; the adequacy of breakfasts and lunches; and the prevalence of "heavy" night meals.

In order to facilitate the comparison of the diets with one another as well as with a fixed standard of adequacy and in order to relate diet to other factors in this study, it was necessary to formulate a system for classifying the diets into well-defined groups according

<sup>1</sup> According to the classification used in this study, "vegetables" indicates vegetables other than potatoes.



to degree of adequacy or inadequacy. A general survey of the diet material was made, and after consultations with pediatricists and specialists in nutrition a system of five grades was established. The specifications for the different grades and the relations of these grades to each other were as follows:

I. *Adequate* (A and B). This group includes all diets which would appear to cover amply all the child's bodily requirements—protein, mineral, vitamins, energy—regardless of the character of the diet.

The subdivision into A and B diets was made largely on the basis of the suitability of the diet in respect to regularity of meals, type of foods, distribution of meals, and similar items.

A. The standard for grade A represents the consensus of opinion among nutrition experts and physicians as to the diet to be recommended for children of preschool age. In such an ideal diet not only must all the elements required to nourish the body be present, but the food must be of such nature and given under such conditions as to be suited to the child's delicate and incompletely developed digestive tract. It will therefore consist largely of mild, bland foods simply cooked, and will contain no tea, coffee, rich pastries, or other unsuitable articles. The meals, furthermore, will be at moderately regular hours; there will be no promiscuous eating between meals, and the dinner or "heaviest" meal will be at noon.

The milk standard for Grade A was set at  $1\frac{1}{2}$  pints.

B. The diets classed as B appeared to contain all the elements required to nourish the child's body, but failed to measure up to the A standard in one or more particulars, usually in respect to items of suitability listed above. It was the general opinion of specialists that a diet with these flaws should be ruled out of the ideal group, but should not be barred from the adequate group. It is to be borne in mind, however, that if these faults are sufficiently serious the child may fail to be well nourished even though his diet includes the essential elements.

The milk standard for grade B was 1 pint.

II. *Questionable* (C). Any diet was classed as C which fell short of the requirements of an A or B diet in enough respects to make its safety extremely doubtful, but which had sufficient good points—usually 1 cup of milk—to make it superior to the definitely inadequate D diets.

III. *Inadequate* (D and E). All diets included in the inadequate group were unquestionably low in one or more of the food requirements.

*D.* A D diet was plainly lacking in essential elements, but had some redeeming features. It usually included less than one-half pint of milk or no milk.

*E.* The E diet represented an extreme degree of inadequacy, being so low in all food essentials as to be practically a deficiency diet. E diets were usually entirely lacking in milk, in all class A proteins, and in fruits, vegetables, butter, potatoes, and whole cereals.

### **Precautions taken in applying the grading system.**

The chief difficulty in applying any system of classification lies in holding to the same standard throughout, and in having two or more persons use it with the same results. Every precaution was therefore taken to secure uniformity of classification. In the first place the specifications for each grade were defined as clearly as possible. The work of grading the diets was done by clerks with special training in dietetics. These clerks were given preliminary practice in applying the standards before beginning the actual grading of the schedules.

In order that nothing might be overlooked in judging a diet, a grading sheet was prepared and every diet was analyzed by this sheet. This was found to be of great assistance in clarifying judgment. In the preliminary practice period each clerk plotted a practice series of 100 diets on this sheet and assigned grades. They then compared the grades they had given. This practice was continued until their grading was so uniform as scarcely to differ one grade in several hundred records. After all diets had been tentatively graded, the two clerks went through the schedules together, made a second estimate of each diet grade, noted the one given previously, and agreed upon a final decision and recorded it. The uniformity of the two graders' work and the agreement in most instances of their final judgment with the first grades are considered evidence that the classification was done as consistently as could well be expected. Since the diets were always given the benefit of any doubt, the grades assigned tend to be higher rather than lower than they should be.

## DISTRIBUTION OF CHILDREN IN THE DIET GRADES.

In analyzing the findings reported in Table 1 it should be kept in mind that the A diet is not one difficult of attainment. It is merely any diet capable of meeting the body's needs and administered with some consideration for the child's age and development. Moreover, such a diet need not be an expensive one—milk, whole cereal, and fruit or vegetable daily being sufficient to allow a diet to qualify in this group—and it is the easiest possible kind of diet to prepare. This being the case it might be expected that the large majority of the children would fall into the A diet group.

These facts notwithstanding, only 25 of the 6,015 children—less than half of 1 per cent of the total number—were thus fortunate. (Table 1.) Furthermore, the number classed as having B diets (probably adequate in food requirements though unsuitable in character and including but a pint of milk) was likewise small, amounting to 8.5 per cent of the whole group. Less than 10 per cent of the children studied, in other words, were receiving diets which appeared adequate to their needs. Almost three times this number (29.2 per cent) had diets (C) whose adequacy was highly questionable; and nearly two-thirds of the entire group (60.5 per cent) were found to have diets plainly incapable of covering all their bodily requirements, 58.4 per cent being in the D group and 2.1 per cent (5 times the percentage of A's) in the extremely inadequate E group. Chart I strikingly portrays this surprising distribution.

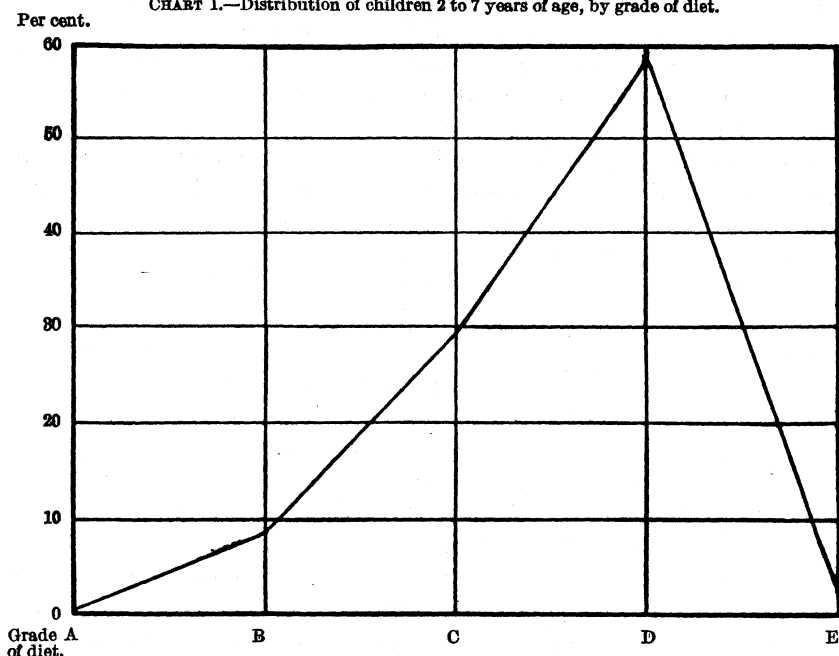
TABLE 1.—*Grade of diet.*

Grade of diet.	Children 2 to 7 years of age.	
	Number.	Per cent distribu- tion.
Total.....	6,015	100.0
Adequate diet.....	534	8.9
A.....	25	.4
B.....	509	8.5
Questionable diet, C.....	1,757	29.2
Inadequate diet.....	3,639	60.5
D.....	3,514	58.4
E.....	125	2.1
Not reported.....	85	1.4

Since some authorities consider that a diet satisfactory in other respects may qualify for class A if it includes one pint instead of one and one-half pints of milk, a count was made of all diets which were kept from this grade solely on account of lacking the extra half-pint of milk. It was found that they numbered only 23; in other words,

only 48 children, 0.8 per cent of the total number, would have been classed as having diets both adequate and suitable had the milk standard for this grade been 1 pint.

CHART I.—Distribution of children 2 to 7 years of age, by grade of diet.



### Age.

A slight tendency toward better diets in the earlier years is indicated by Table 2, which shows a drop from 11 per cent of the 2-year-old children in A or B groups to 7.7 per cent of those 7 years of age in the same groups, and a corresponding increase in the percentage having D or E diets. These differences are not sufficient, however, to warrant the assumption that the younger children were given any special consideration in the matter of feeding.

TABLE 2.—Grade of diet, by age of child.

Age of child.	Children 2 to 7 years of age.								
	Total.	Grade of diet.						Not reported.	
		A and B.		C.		D and E.			
		Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	6,015	334	8.9	1,757	29.2	3,639	60.5	85	1.4
2 years, under 3.....	1,079	119	11.0	350	32.4	601	55.7	9	0.8
3 years, under 4.....	1,437	126	8.7	450	31.3	844	58.7	17	1.2
4 years, under 5.....	1,233	104	8.4	348	28.2	760	61.6	21	1.7
5 years, under 6.....	1,100	98	8.9	290	26.4	695	63.2	17	1.5
6 years, under 7.....	1,008	75	7.4	282	28.0	637	63.2	14	1.4
7 years, under 8.....	156	12	7.7	37	23.7	100	64.1	7	4.5
Not reported.....	2					2			

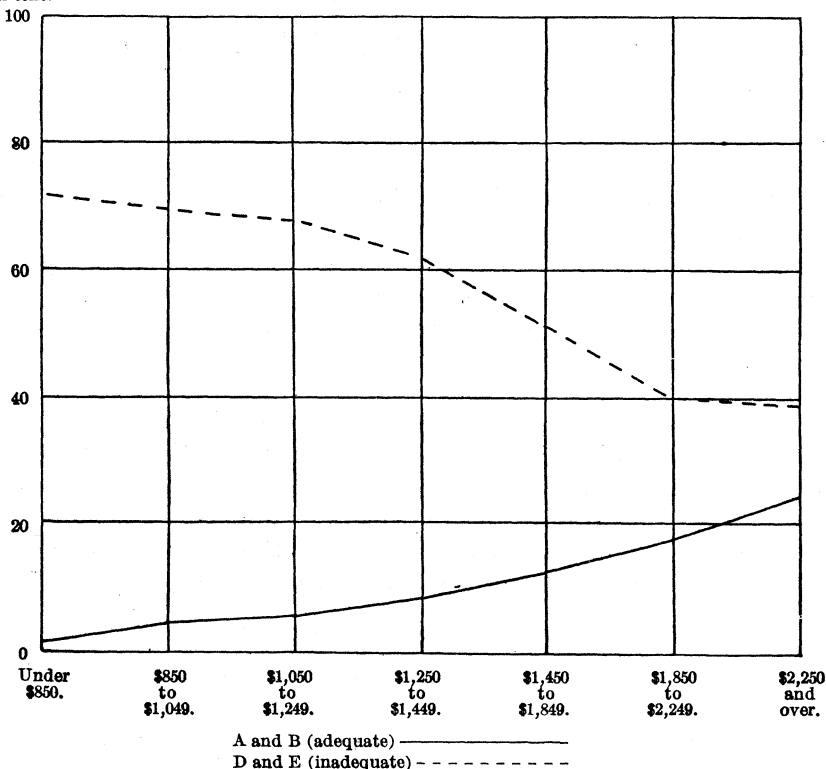
<sup>1</sup> Not shown where base is less than 100.

### Income.

That income is a contributing factor in the inadequate feeding of children is evident from Chart II. The proportion of adequate diets (A and B) increases gradually from the lowest income level to the highest, and the proportion of inadequate diets (D and E) likewise decreases progressively with the rise in earnings, a sudden drop occurring at the \$1,850 income level. But the actual proportions of

CHART II.—Per cent of children 2 to 7 years of age with adequate and with inadequate diet, by earnings of chief breadwinner.

Per cent.



adequate and inadequate diets in the highest income group show clearly that poverty is not the sole cause of faulty feeding. In the most prosperous group only 24.5 per cent of the children appeared to have adequate diets, and 38.8 per cent of them had definitely unsatisfactory ones. (Table 3.) The conclusion to which these data lead—that the need for education regarding the food needs of growing children is not restricted to low income groups—is borne out by other sections of the report which follow.

TABLE 3.—*Grade of diet, by earnings of chief breadwinner.*

Earnings of chief breadwin- ner.	Children 2 to 7 years of age.								
	Total.	Grade of diet.						Not reported.	
		A and B.		C.		D and E.			
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.
Total.....	6,015	534	8.9	1,757	29.2	3,639	60.5	85	1.4
Under \$850.....	851	12	1.4	215	25.3	610	71.7	14	1.6
\$850 to \$1,049.....	923	40	4.3	235	25.5	640	69.3	8	.9
\$1,050 to \$1,249.....	1,065	59	5.5	270	25.4	721	67.7	15	1.4
\$1,250 to \$1,449.....	843	71	8.4	239	28.4	522	61.9	11	1.3
\$1,450 to \$1,849.....	1,041	133	12.8	361	34.7	532	51.1	15	1.4
\$1,850 to \$2,249.....	378	67	17.7	158	41.8	151	39.9	2	.5
\$2,250 and over.....	441	108	24.5	153	34.7	171	38.8	9	2.0
No chief breadwinner and no earnings.....	129	7	5.4	31	24.0	89	69.0	2	1.6
Not reported.....	344	37	10.8	95	27.6	203	59.0	9	2.6

### Nationality.

The children of colored and of foreign-born mothers had on the whole less satisfactory diets than the children of native white mothers. Of the 25 diets classed as A, 24 were in the last-mentioned group, the one exception being a child of German parentage. Even when factors of suitability which distinguish the A from the B diet are disregarded, the native white group makes the best showing, for 19.2 per cent of the children in this group had adequate diets (A and B), while but 4.3 per cent of the children of foreign-born and of colored mothers were classed as being adequately fed. The children of German mothers were the best fed among the children of foreign-born mothers, 11.4 per cent of them having A or B diets. The proportion of children having adequate diets in other foreign nationality groups ranged from 2.4 per cent to less than 1 per cent. (Table 4.)

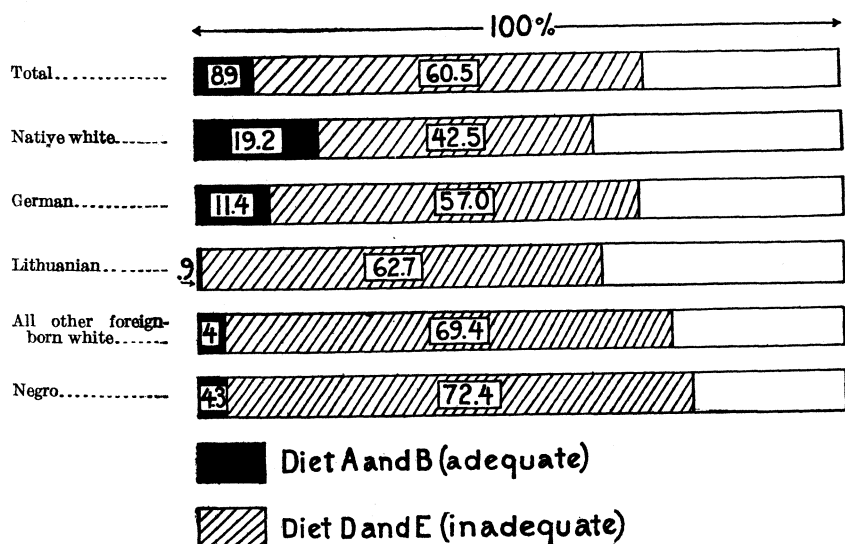
TABLE 4.—*Grade of diet, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.								
	Total.	Grade of diet.						Not reported.	
		A and B.		C.		D and E.			
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	6,015	534	8.9	1,757	29.2	3,639	60.5	85	1.4
White.....	5,777	522	9.0	1,706	29.5	3,469	60.0	80	1.4
Native.....	1,843	354	19.2	667	36.2	783	42.5	39	2.1
Foreign-born.....	3,934	168	4.3	1,039	26.4	2,686	68.3	41	1.0
Polish.....	923	10	1.1	205	22.2	698	75.6	10	1.1
Serbo-Croatian.....	587	14	2.4	143	24.4	425	72.4	5	.9
Slovak.....	546	12	2.2	114	20.9	419	76.7	1	.2
Magyar.....	291	6	2.1	62	21.3	221	75.9	2	.7
Italian.....	265	4	1.5	51	19.2	204	77.0	6	2.3
German.....	228	26	11.4	69	30.3	130	57.0	3	1.3
Lithuanian.....	225	2	.9	76	33.8	141	62.7	6	2.7
All other.....	869	94	10.8	319	36.7	448	51.6	8	.9
Negro.....	232	10	4.3	49	21.1	168	72.4	5	2.2
Not reported.....	6	2	.....	2	.....	2	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

The poor diets of the children of the foreign born are even more apparent when the proportion of inadequate diets is considered. Barring the German and the Lithuanian groups, whose records were slightly better (57 and 62.7 per cent, respectively, inadequate), seventenths of the children of foreign-born and colored mothers had diets classified as inadequate (D or E), and most of the remainder, as Chart III illustrates, had diets graded as questionable (C). The record of the native whites, though noticeably better than the others, is far from being a matter of pride, since not far from half of these children (42.5 per cent) were in the groups D and E.

CHART III.—Per cent of children 2 to 7 years of age with adequate and with inadequate diet, by nationality of mother.



### District of residence.

In Ambridge and in the First Subdivision, the two most favored districts of the city, the diets were somewhat better than in other sections, those of 30.2 per cent of the children in the former and 19.5 per cent in the latter section being adequate and those of 30.9 per cent and 40.9 per cent, respectively, being inadequate. This record is far from good, and deserves commendation only in comparison with the poorer records of Tolleston and the South Side. In each of these districts only 4.6 and 2.7 per cent of the children were adequately fed; about 70 per cent were receiving distinctly inadequate diets, and the remainder questionable ones. (Table 5.) This indicates that nearly the entire preschool population of these sections—which contained about two-thirds of all the children in the city—were being inadequately fed. (See p. 14.)

TABLE 5.—*Grade of diet, by district of residence.*

District of residence.	Children 2 to 7 years of age.								
	Total.	Grade of diet.						Not reported.	
		A and B.		C.		D and E.			
		Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>
Total.....	6,015	534	8.9	1,757	29.2	3,639	60.5	85	1.4
Ambridge.....	162	49	30.2	61	37.7	50	30.9	2	1.2
Clark.....	40	1	.....	8	.....	31	.....	.....	.....
First Subdivision.....	1,496	291	19.5	570	38.1	612	40.9	23	1.5
Lincoln Park.....	99	4	.....	21	.....	72	.....	2	.....
Ridge Road and Glen Park..	393	61	15.5	142	36.1	179	45.5	11	2.8
South Side.....	2,890	77	2.7	715	24.7	2,064	71.4	34	1.2
Tolleston.....	892	41	4.6	222	24.9	616	69.1	13	1.5
West Gary.....	43	10	.....	18	.....	15	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.



## USE OF SPECIFIED FOODS.

The particular dietary limitations and other factors responsible for the large proportions of deficient diets which have been described, will be disclosed in the following detailed study of the diets in respect to the use of specific foods and the customs regarding certain dietary practices.

Food combinations which are capable of furnishing a diet satisfactory in every way for the normal nutrition of a growing child exist in wide variety. It is possible indeed to choose two or three foods which, if eaten in sufficient amounts, may meet all the body's requirements for growth and maintenance. Obviously, however, these foods must be so chosen that their dietary properties supplement one another in such a way as to form a complete diet. Fresh whole milk and a whole cereal are one such combination. It is highly doubtful, however, whether the average human being would day in and day out eat enough of so monotonous a diet as cereal and milk to cover his energy and other requirements. In order to avoid this monotony and to insure a sufficient amount of the various food elements, it is obvious that in the absence of knowledge of food values safety lies in using a variety of foods.

In outlining diets for young children it is customary to include daily the following foods: Milk, potato and other vegetables, fruit, cereal, and either egg, fish, or meat. Such a general plan allows much freedom of choice in the way of vegetables, fruits, cereals, breads, and simple sweets, but supplies all the needed food constituents. Even though a satisfactory diet can be provided without some of these foods, the safer course is to include them all in the regular daily menus. The extent to which these foods, individually and in combination, are present or lacking in the diets studied may therefore be considered with profit.

### Milk.

It is no mere bit of sentimentality that causes milk to be termed the "indispensable food" of childhood. The term is literally deserved, for though an expert might devise a diet for early childhood which did not include milk, the task would not be easy; and it may be taken for granted that the diet which does not include milk is inadequate. With this one food lacking a diet is almost certain to be deficient in the calcium so necessary for the growth of bones and teeth; and it is almost equally sure to be low in the best growth proteins, in phosphorus and other essential minerals, and in one or

more of the vitamins. On the other hand, milk alone, in plenty, goes a long way toward making a satisfactory diet for a growing child and toward covering the deficiencies of an otherwise hopeless diet. Hence it is spoken of with equal correctness as a "protective food."

The amount of milk actually required by a young child daily is not easily determined. "A quart of milk a day for every child" is the slogan adopted by many nutrition specialists. Some who believe the quart a wise allowance accept  $1\frac{1}{2}$  pints as possibly sufficient and as a more practical amount. According to almost universal agreement, a pint of milk at the very least should be provided for every child daily.

In the light of such standards the children of this survey made a poor showing indeed. Only 8.4 per cent of the total group were drinking  $1\frac{1}{2}$  pints or more of milk a day, and but 10.5 per cent were drinking a pint. (Table 6.) In other words, only 18.9 per cent of all these preschool children were receiving daily at least a pint of milk, the amount universally agreed upon as the minimum they should be given. Some of the remainder were receiving smaller amounts—18.1 per cent had about half a pint, and 3.4 per cent less than half a pint. More than half of all the children (57.2 per cent) had no milk at all to drink on the day for which diet was reported.

TABLE 6.—Amount of milk used as beverage.

Amount of milk used as beverage.	Children 2 to 7 years of age.	
	Number.	Per cent distribu- tion.
Total.....	6, 015	100.0
No milk.....	3, 443	57.2
Less than 1 pint.....	1, 294	21.5
Less than $\frac{1}{2}$ pint.....	206	3.4
$\frac{1}{2}$ pint, less than 1 pint.....	1, 088	18.1
1 pint and over.....	1, 139	18.9
1 pint, less than $1\frac{1}{2}$ pints.....	633	10.5
$1\frac{1}{2}$ pints and over.....	506	8.4
Not reported.....	139	2.3

When it is borne in mind that these children were all in the early years of childhood—the time, outside of infancy, when milk is most needed—the significance of such deprivation becomes forcefully apparent.

The amounts of milk just considered refer only to milk used as a beverage. Milk taken in food is likely to be a variable and uncertain supply. Nevertheless, in order to give due credit for all milk used whether as a beverage or in food, the schedules were gone over and checked as having "milk in food" if custards, milk gravies, milk

soups, or other foods containing milk were present. Even after credit was given for milk in food, 970 children, or 16.1 per cent of the total number, remained whose diet contained no milk whatever. (Table 7.) A total of 21.8 per cent had no milk in food and less than a pint to drink. Furthermore, 38.5 per cent had no milk except the amounts they might get in foods—and it is extremely unlikely that this amount ever reached a pint. (Table 8.) Three-fifths of the group studied (60.3 per cent), therefore, were probably receiving less than a pint of milk daily either in food, as a beverage, or in combination.

TABLE 7.—*Amount of milk used as beverage in absence of milk in food.*

Amount of milk used as beverage in absence of milk in food.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
Total having no milk in food.....	1,714	28.5
With no milk as beverage.....	970	16.1
With less than 1 pint as beverage.....	343	5.7
With 1 pint and over as beverage.....	372	6.2
With amount as beverage not reported.....	29	0.5

TABLE 8.—*Amount of milk used as beverage in addition to milk used in food.*

Amount of milk used as beverage in addition to milk used in food.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
Total having milk in food.....	3,916	65.1
With no milk as beverage.....	2,314	38.5
With less than 1 pint as beverage.....	860	14.3
With 1 pint and over as beverage.....	687	11.4
With amount as beverage not reported.....	55	.9

*Use of milk and age of child.*—It might be thought that the younger children—those 2 and 3 years old at least—would still be regarded by their mothers as infants and provided with a more generous amount of milk than older children. But although a slightly greater proportion of those 2 years than of those 7 years of age were receiving a pint or more to drink—22.8 per cent as compared with 14.1 per cent—the difference is not very great. (Table 9.)

TABLE 9.—Amount of milk used as beverage, by age of child.

Age of child.	Children 2 to 7 years of age.						
	Total.	Using specified amount of milk as beverage.				Not reported.	
		None and less than 1 pint.		1 pint and over.			
		Number.	Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent.
Total.....	6,015	4,737	78.8	1,139	18.9	139	2.3
2 years, under 3.....	1,079	812	75.3	246	22.8	21	1.9
3 years, under 4.....	1,437	1,120	77.9	288	20.0	29	2.0
4 years, under 5.....	1,233	977	79.2	224	18.2	32	2.6
5 years, under 6.....	1,100	889	80.8	191	17.4	20	1.8
6 years, under 7.....	1,008	810	80.4	168	16.7	30	3.0
7 years, under 8.....	156	127	81.4	22	14.1	7	4.5
Not reported.....	2	2					

<sup>1</sup> Not shown where base is less than 100.

*Use of milk and income.*—A partial explanation of the fact that these children were not better provided with milk is found by studying the milk consumption in relation to the father's earnings. Table 10 shows a decided improvement in the milk record after the income reaches \$1,250. When the father's earnings were less than this amount more than 60 per cent of the children had no milk at all to drink and less than 15 per cent had at least a pint. After the income reached \$1,250, however, the proportion having no milk to drink declined progressively from 58.6 per cent in the \$1,250 to \$1,449 group to 38.5 per cent in the \$2,250 and over group, while the proportion having a pint or more increased from 18.5 per cent to 31.5 per cent. The higher the income, in other words, the greater was the use of milk as a beverage.

TABLE 10.—Amount of milk used as beverage, by earnings of chief breadwinner.

Earnings of chief breadwinner.	Children 2 to 7 years of age.								
	Total.	Using no milk as beverage.		Using specified amount of milk as beverage.				Not reported.	
				Less than 1 pint.		1 pint and over.			
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	6,015	3,443	57.2	1,294	21.5	1,139	18.9	139	2.3
Under \$850.....	851	529	62.2	199	23.4	100	11.8	23	2.7
\$850 to \$1,049.....	923	584	63.3	200	21.7	127	13.8	12	1.3
\$1,050 to \$1,249.....	1,065	676	63.5	216	20.3	148	13.9	25	2.3
\$1,250 to \$1,449.....	843	494	58.6	176	20.9	156	18.5	17	2.0
\$1,450 to \$1,849.....	1,041	538	51.7	234	22.5	248	23.8	21	2.0
\$1,850 to \$2,249.....	378	168	44.4	87	23.0	117	31.0	6	1.6
\$2,250 and over.....	441	170	38.5	112	25.4	139	31.5	20	4.5
No chief breadwinner and no earnings.....	129	76	58.9	23	17.8	25	19.4	5	3.9
Not reported.....	344	208	60.5	47	13.7	79	23.0	10	2.9

That low income is not solely responsible for the absence of milk from the diets is equally evident from Table 10; for in spite of the more extensive use of milk in the highest earnings group, there still remain 38.5 per cent of this group who were drinking no milk, and only 31.5 per cent of them were receiving a pint or more daily.

*Use of milk and nationality.*—A comparison by nationalities (Table 11) shows that the children of Italian mothers received by far the least amount of milk, only 6.8 per cent having so much as a pint daily, and 75.1 per cent having none. The children of Magyar and Slovak mothers fared little better, however, for only about 8 per cent of these were in the group receiving at least a pint a day and more than 70 per cent were in the group receiving no milk at all. Children of Polish, Lithuanian, Negro, and Serbo-Croatian mothers had a slightly better record, ranging from 12.4 to 16.7 per cent with a pint or more, and from 57.3 to 65.5 per cent with none. Children of native white and those of German parentage were above the average, 27.9 per cent of the former having a pint or more and 46.9 per cent having none, while of the latter 26.3 per cent had a pint or more and 51.8 per cent had none.

TABLE 11.—Amount of milk used as beverage, by color and nationality of mother.

Color and nationality of mother.	Children 2 to 7 years of age.								
	Total.	Using no milk as beverage.		Using specified amount of milk as beverage.				Not reported.	
				Less than 1 pint.		1 pint and over.			
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent.
Total.....	6,015	3,443	57.2	1,294	21.5	1,139	18.9	139	2.3
White.....	5,777	3,289	56.9	1,257	21.8	1,099	19.0	132	2.3
Native.....	1,843	865	46.9	410	22.2	515	27.9	53	2.9
Foreign-born.....	3,934	2,424	61.6	847	21.5	584	14.8	79	2.0
Polish.....	923	595	64.5	202	21.9	114	12.4	12	1.3
Serbo-Croatian.....	587	351	59.8	120	20.4	98	16.7	18	3.1
Slovak.....	546	402	73.6	93	17.0	49	9.0	2	0.4
Magyar.....	291	206	70.8	54	18.6	24	8.2	7	2.4
Italian.....	265	199	75.1	37	14.0	18	6.8	11	4.2
German.....	228	118	51.8	47	20.6	60	26.3	3	1.3
Lithuanian.....	225	129	57.3	56	24.9	30	13.3	10	4.4
All other.....	869	424	48.8	238	27.4	191	22.0	16	1.8
Negro.....	232	152	65.5	36	15.5	37	15.9	7	3.0
Not reported.....	6	2	.....	1	.....	3	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

*Use of milk and district of residence.*—An examination of the milk record of the two sections of the city where the large majority of the children lived—the First Subdivision, and the South Side including Tolleston—does not show so great a difference in favor of the former as its larger percentage of native whites, its greater prosperity, and

its generally higher standard of living would lead one to expect. Of the children in this more favored residence district 44.7 per cent had no milk to drink and only 30.1 per cent had so much as the pint minimum. In the South Side and Tolleston, with their larger percentage of foreign born and lesser advantages, approximately two-thirds (64.6 per cent) of the children were in the "no milk" class and only 13.2 per cent received a pint or more a day. (Table 12.)

TABLE 12.—Amount of milk used as beverage, by district of residence.

District of residence.	Children 2 to 7 years of age.								
	Total.	Using no milk as beverage.		Using specified amount of milk as beverage.				Not reported.	
				Less than 1 pint.		1 pint and over.			
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>
Total.....	6,015	3,443	57.2	1,294	21.5	1,139	18.9	139	2.3
Ambridge.....	162	51	31.5	54	33.3	55	34.0	2	1.2
Clark.....	40	28	.....	9	.....	3	.....	.....	.....
First Subdivision.....	1,496	669	44.7	342	22.9	450	30.1	35	2.3
Lincoln Park.....	99	57	.....	23	.....	16	.....	3	.....
Ridge Road and Glen Park.....	393	179	45.5	95	24.2	107	27.2	12	3.1
South Side.....	2,890	1,882	65.1	582	20.1	362	12.5	64	2.2
Tolleston.....	892	560	62.8	174	19.5	136	15.2	22	2.5
West Gary.....	43	17	.....	15	.....	10	.....	1	.....

<sup>1</sup> Not shown where base is less than 100.

### Coffee or tea.

In marked contrast with the scanty use of milk stands the liberal use of coffee and tea as beverages among the children studied, of whom more than two-thirds (66.8 per cent) had coffee or tea on the day of the study, 26.8 per cent having it once, 23.5 per cent twice, and 16.4 per cent three times or more. (Table 13.)

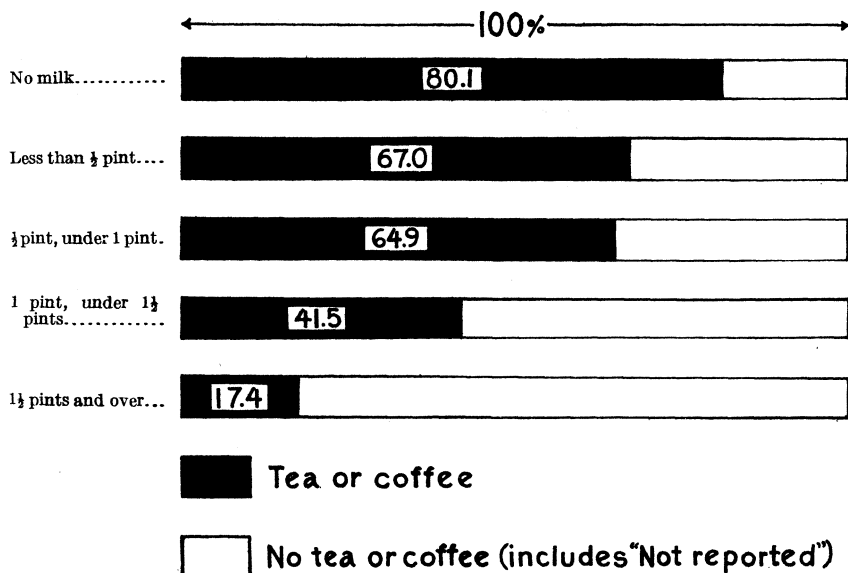
TABLE 13.—Number of times tea or coffee used daily.<sup>1</sup>

Number of times tea or coffee used daily. <sup>1</sup>	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
Using neither tea nor coffee.....	1,928	32.1
Using tea or coffee.....	4,017	66.8
Once.....	1,615	26.8
Twice.....	1,413	23.5
Three times and over.....	989	16.4
Not reported.....	70	1.2

<sup>1</sup> Information relates to day preceding agent's visit.

*Relation between use of coffee<sup>2</sup> and use of milk.*—An inverse relation between the coffee and milk consumption such as is commonly observed by social dietitians appears in the cases under study, as is strikingly shown in Table 14 and Chart IV. Whether the use of coffee tends to decrease the amount of milk consumed, or whether the use of coffee is occasioned by decreased milk supply, is hard to say. It is probable, in fact, that the rule works in both directions. Certain it is that in many cases when a child is allowed to have coffee he consequently refuses milk, which is bland and tasteless in com-

CHART IV.—Per cent of children 2 to 7 years of age using tea or coffee, by use of milk as a beverage.



parison, and coffee eventually displaces milk in his diet. On the other hand it is reported to be a common procedure in poorer homes—particularly among the foreign born—deliberately to introduce coffee as a substitute for milk. Both are regarded as mere beverages and coffee is chosen because it seems to be much the cheaper. Prohibiting the use of coffee in the former instance would probably increase the milk used, while increasing the milk purchased in the latter type of case—if this were possible—would doubtless do much to lessen the amount of coffee consumed.

<sup>2</sup> Throughout the remainder of this discussion, "coffee" will be used to indicate both coffee and tea.

TABLE 14.—*Use of tea and coffee, by amount of milk used as a beverage.*

Amount of milk used as a beverage.	Children 2 to 7 years of age.		
	Total.	Using tea or coffee.	
		Number.	Per cent.
Total.....	6,015	4,010	66.7
No milk.....	3,443	2,758	80.1
Less than $\frac{1}{4}$ pint.....	206	138	67.0
$\frac{1}{4}$ pint, less than 1 pint.....	1,088	706	64.9
1 pint, less than $1\frac{1}{2}$ pints.....	633	263	41.5
$1\frac{1}{2}$ pints and over.....	506	88	17.4
Not reported.....	139	57	41.0

*Use of coffee and age of child.*—A slightly higher percentage of the children 2 years of age were without coffee than of those of any other age, and the proportion having none diminished from 35.8 per cent in the 2-year age group to 27.6 per cent in the 7-year age group. A higher percentage of 3-year-old children, on the other hand, had coffee three or more times a day than of those of any other age. (Table 15.) Age, therefore, does not appear to be an important factor in determining the use of coffee.

TABLE 15.—*Number of times tea or coffee used daily,<sup>1</sup> by age of child.*

Age of child.	Children 2 to 7 years of age.										
	Total.	Using neither tea nor coffee.		Using tea or coffee specified number of times daily. <sup>1</sup>						Not reported.	
				Once.		Twice.		Three times and over.			
		Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent.
Total.....	6,015	1,928	32.1	1,615	26.8	1,413	23.5	989	16.4	70	1.2
2 years, under 3.....	1,079	386	35.8	261	24.2	262	24.3	164	15.2	6	0.6
3 years, under 4.....	1,437	443	30.8	391	27.2	319	22.2	268	18.6	16	1.1
4 years, under 5.....	1,233	380	30.8	326	26.4	315	25.5	199	16.1	13	1.1
5 years, under 6.....	1,100	351	31.9	307	27.9	245	22.3	182	16.5	15	1.4
6 years, under 7.....	1,008	325	32.2	282	28.0	236	23.4	151	15.0	14	1.4
7 years, under 8.....	156	43	27.6	48	30.8	36	23.1	23	14.7	6	3.8
Not reported.....	2							2			

<sup>1</sup> Information relates to day preceding agent's visit.<sup>2</sup> Not shown where base is less than 100.

*Use of coffee and income.*—It has been suggested that the use of coffee by young children is one of the accompaniments of poverty. The truth of this assumption appears in Chart V, which shows a gradually decreasing use of coffee after the \$1,250 income level is reached, the greatest drop being in the group whose fathers' earnings are \$2,250 or over. Furthermore, the percentage of children drinking coffee twice a day or oftener declines from 49 per cent and 50.9 per cent, respectively, in the two lowest income groups to 24.4 per cent and 12.2 per cent in the two highest. (Table 16.) This increased consumption of coffee with lessened earnings is easily



understood. Not only is the coffee cheaper than milk, but as a hot, palatable drink it lends flavor to the monotonous bread diet so common in low income groups.

CHART V.—Per cent of children 2 to 7 years of age using tea or coffee, by earnings of chief breadwinner.

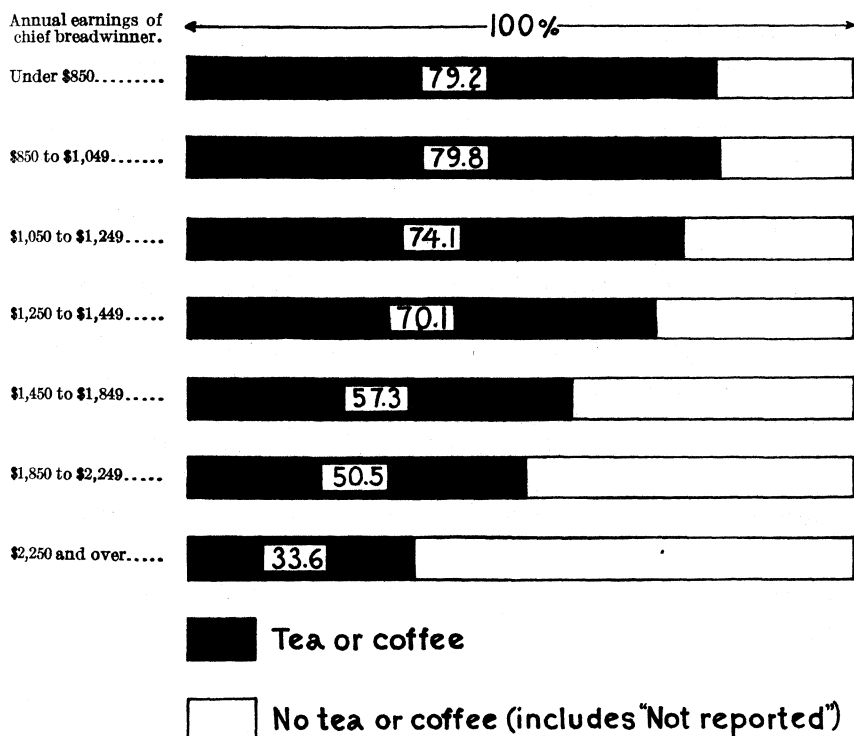


TABLE 16.—Number of times tea or coffee used daily,<sup>1</sup> by earnings of chief breadwinner.

Earnings of chief breadwinner.	Children 2 to 7 years of age.												
	Total.	Using neither tea nor coffee.		Using tea or coffee specified number of times daily. <sup>1</sup>								Not reported.	
				Once.	More than once.								
					Total.		Twice.		Three times and over.				
		Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
Total.....	6,015	1,923	32.1	1,615	26.8	2,402	39.9	1,413	23.5	989	16.4	70	1.2
Under \$850.....	851	162	19.0	257	30.2	417	49.0	245	28.8	172	20.2	15	1.8
\$850 to \$1,049.....	923	179	19.4	267	28.9	470	50.9	269	29.1	201	21.8	7	.8
\$1,050 to \$1,249.....	1,065	264	24.8	298	28.0	491	46.1	265	25.3	222	20.8	12	1.1
\$1,250 to \$1,449.....	843	245	29.1	221	26.2	370	43.9	226	26.8	144	17.1	7	.8
\$1,450 to \$1,849.....	1,041	432	41.5	259	24.9	338	32.5	195	18.7	143	13.7	12	1.2
\$1,850 to \$2,249.....	378	185	48.9	99	26.2	92	24.3	60	15.9	32	8.5	2	.5
\$2,250 and over.....	441	288	65.3	94	21.3	54	12.2	38	8.6	16	3.6	5	1.1
No chief breadwin- ner and no earnings.	129	42	32.6	34	26.4	52	40.3	32	24.8	20	15.5	1	.8
Not reported.....	344	131	38.1	86	25.0	118	34.3	79	23.0	39	11.3	9	2.6

<sup>1</sup> Information relates to day preceding agent's visit.

The families with low incomes, then, do have the excuse of poverty for allowing children 2 to 7 years of age to drink coffee. But this explanation will not hold for the highest income group; fully one-third of the children in this group (33.6 per cent) drank coffee, and 12.2 per cent were having it two or three times a day. Ignorance would appear to be the only excuse parents with incomes sufficient to purchase the necessities of life could offer for allowing young children to form such habits.

*Use of coffee and nationality.*—The coffee habit was found to be more prevalent among the children of the foreign born than among those of native white and of colored mothers. The colored mothers had the best record in this respect, with 66.8 per cent of their children in the noncoffee-drinking group. Of the children of native whites, 63.2 per cent had no coffee; while the children of foreign-born mothers showed an average of only 15.4 per cent without coffee. In certain of the groups of children of foreign-born parentage the coffee custom was nearly universal; among the Slovaks, the Magyars, and the Polish, only 5.5 per cent, 7.2 per cent, and 7.8 per cent, respectively, of the children were in the noncoffee-drinking group. Best among the groups of foreign-born parentage in this respect were the children of Germans, of whom practically one-third (30.7 per cent) did not drink coffee. (Table 17.)

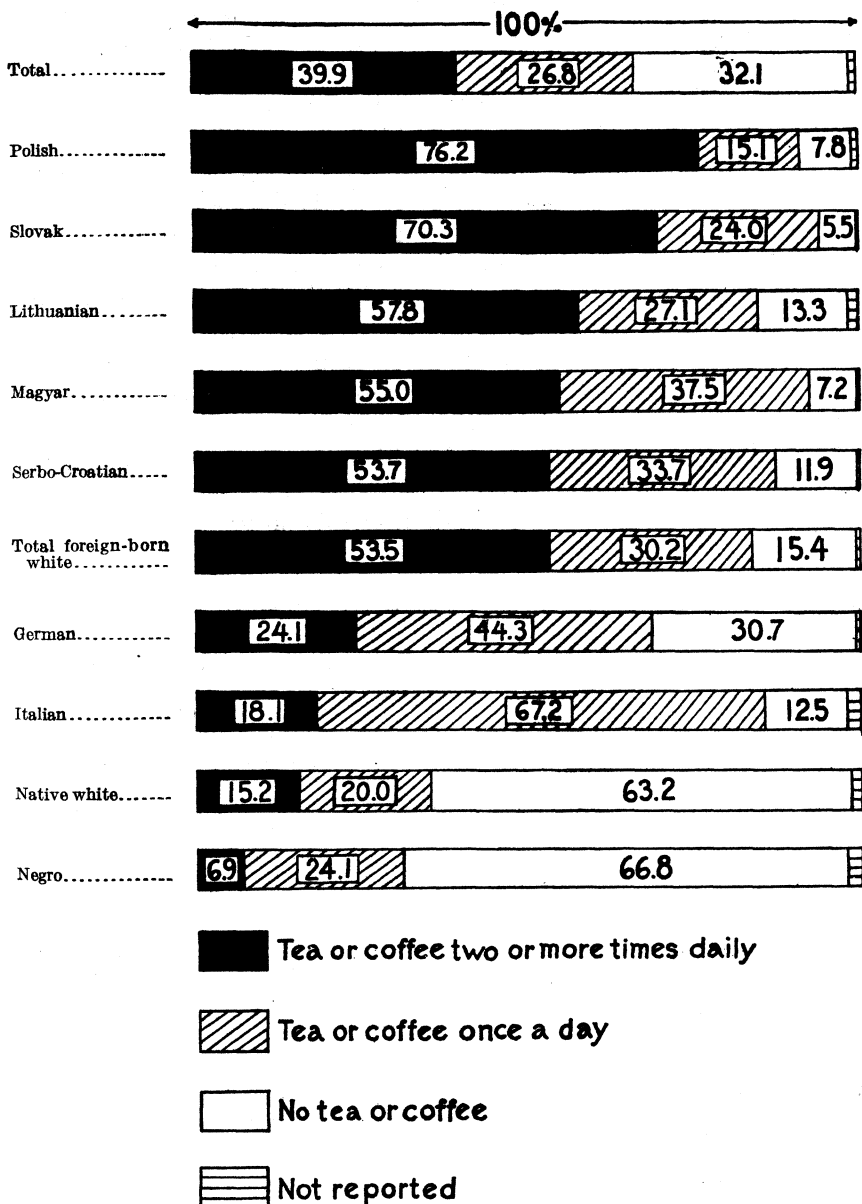
TABLE 17.—Number of times tea or coffee used daily,<sup>1</sup> by color and nationality of mother.

Color and national- ity of mother.	Children 2 to 7 years of age.													
	Total.	Using tea or coffee specified number of times daily. <sup>1</sup>										Not reported.		
		Using nei- ther tea nor coffee.		Once.		More than once.								
						Total.		Twice.		Three times and over.				
		Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
Total.....	6,015	1,928	32.1	1,615	26.8	2,402	39.9	1,413	23.5	989	16.4	70	1.2	
White.....	5,777	1,768	30.6	1,558	27.0	2,386	41.3	1,406	24.3	980	17.0	65	1.1	
Native.....	1,843	1,164	63.2	368	20.0	280	15.2	194	10.5	86	4.7	31	1.7	
Foreign-born.....	3,934	604	15.4	1,190	30.2	2,106	53.5	1,212	30.8	894	22.7	34	.9	
Polish.....	923	72	7.8	139	15.1	703	76.2	349	37.8	354	38.4	9	1.0	
Serbo-Croatian.....	587	70	11.9	198	33.7	315	53.7	171	29.1	144	24.5	4	.7	
Slovak.....	546	30	5.5	131	24.0	384	70.3	216	39.6	168	30.8	1	.2	
Magyar.....	291	21	7.2	109	37.5	160	55.0	110	37.8	50	17.2	1	.3	
Italian.....	265	33	12.5	178	67.2	48	18.1	35	13.2	13	4.9	6	2.3	
German.....	228	70	30.7	101	44.3	55	24.1	38	16.7	17	7.5	2	.9	
Lithuanian.....	225	30	13.3	61	27.1	130	57.8	84	37.3	46	20.4	4	1.8	
All other.....	869	278	32.0	273	31.4	311	35.8	209	24.1	102	11.7	7	.8	
Negro.....	232	155	66.8	56	24.1	16	6.9	7	3.0	9	3.9	5	2.2	
Not reported.....	6	5	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	

<sup>1</sup> Information relates to day preceding agent's visit.

<sup>2</sup> Not shown where base is less than 100.

CHART VI.—Per cent of children 2 to 7 years of age using tea or coffee, by nationality of mother.



Not only is coffee drinking more common among the children of the foreign born than among those of the native born, but it appears to be carried to greater excess. Whereas only 15.2 per cent of the children of native white and 6.9 per cent of the children of colored mothers had coffee twice or more often daily, 53.5 per cent of the children of foreign-born mothers had it thus frequently. (Chart VI.)

The children of Polish and Slovak mothers appear to have fared worst in regard to the use of coffee. Not only did more than 90 per cent of the children of each of these groups drink coffee, but practically three-fourths of them drank it two or more times a day.

Coffee as a substitute for milk seems likewise especially common among the foreign nationality groups, as is shown by the records of the 970 children who had no milk, even in food. (Table 18.) Even among the cases in which no milk was received, but 54.8 per cent of the children of native white mothers and 28.6 per cent of the children of colored mothers had coffee to drink, while 100 per cent of the children of Polish, Magyar, and Slovak mothers, and 94.8 per cent of all other children in this no-milk group, drank coffee.

TABLE 18.—*Use of tea and coffee by children who had no milk, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age who had no milk either in food or as a beverage.				
	Total.	Using neither tea nor coffee.		Using tea or coffee.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>
Total.....	970	192	19.8	778	80.2
White.....	879	127	14.4	752	85.6
Native.....	241	109	45.2	132	54.8
Foreign-born.....	638	18	2.8	620	97.2
Polish.....	128	.....	.....	128	100.0
Serbo-Croatian.....	131	2	1.5	129	98.5
Slovak.....	113	.....	.....	113	100.0
Magyar.....	53	.....	.....	53	.....
Italian.....	35	1	.....	34	.....
German.....	36	2	.....	34	.....
Lithuanian.....	57	1	.....	56	.....
All other.....	85	12	.....	73	.....
Negro.....	91	65	.....	26	.....

<sup>1</sup> Not shown where base is less than 100.

## Vegetables and fruits.

Vegetables and fruits are depended on to a considerable extent to supply the body with its needed mineral salts as well as to furnish indigestible residue and organic acids which are important in preventing constipation. They are, moreover, valuable sources of the vitamins. In view of these important functions it is significant that more than half (50.4 per cent) of the children studied had no

vegetables other than potatoes and that nearly two-thirds (60.1 per cent) had no fruit of any kind. (Table 19.) These figures, moreover, are conservative, for every vegetable mentioned in the schedules—even those of such doubtful value and used, probably, in such negligible amount as cucumbers, radishes, and green peppers—was given full credit as one vegetable, and jelly and preserves were counted as fruits. Vegetables and fruits evidently occupied but a minor place in the dietaries of this group of children.

*Use of vegetables and fruits, and nationality.*—The children of foreign-born mothers fared less well on the average in this respect than the children of native white mothers, 53.7 per cent of the former group being without vegetables and 67.6 per cent without fruits, in contrast with 44.2 per cent of the latter group having no vegetables and 43.5 per cent having no fruits.

Certain of the foreign nationality groups stand conspicuously below the average in the use of these foods, as is shown in Table 19. The children of Lithuanian and Serbo-Croatian mothers were the least well provided for, not far from two-thirds being without vegetables and about three-fourths having no fruits in each of these nationality groups.

The Italians are usually credited with generous use of green vegetables and fruits, and in this study they have indeed a more favorable showing in this respect than any other nationality group except the Magyars, not even excepting the native whites. In this instance they can scarcely be regarded as using these foods liberally, however, since 41.5 per cent of the children of Italian parentage had no vegetables and 60 per cent were without fruits.

TABLE 19.—*Absence of fruits and vegetables from diet, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.				
	Total.	Having no vegetables in diet.		Having no fruits in diet.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>
Total.....	6,015	3,032	50.4	3,615	60.1
White.....	5,777	2,928	50.7	3,459	59.9
Native.....	1,843	815	44.2	801	43.5
Foreign-born.....	3,934	2,113	53.7	2,658	67.6
Polish.....	923	546	59.2	647	70.1
Serbo-Croatian.....	587	363	61.8	468	79.7
Slovak.....	546	282	51.6	414	75.8
Magyar.....	291	113	38.8	196	67.4
Italian.....	265	110	41.5	159	60.0
German.....	228	96	42.1	119	52.2
Lithuanian.....	225	144	64.0	167	74.2
All other.....	869	459	52.8	488	56.2
Negro.....	232	101	43.5	154	66.4
Not reported.....	6	3	.....	2	.....

<sup>1</sup> Not shown where base is less than 100.

*Use of vegetables and fruits, and income.*—According to Table 20, the income of the family appears to be an important factor in determining whether or not children shall have fruits, but it would seem to affect scarcely at all the likelihood of their having vegetables. This is in accord with experience of social dietitians who find that fruit is well liked by children and is eaten whenever it can be had, but that it is regarded by their parents as a luxury and purchased for the most part only after what they consider essential has been provided. Vegetables, on the other hand, are not only little appreciated by parents save as flavoring for soup, but—with the exception of lettuce, radishes, cucumbers, and perhaps tomatoes—are usually disliked by children and therefore little eaten even when at hand. This explanation may account for the slight variation in the use of vegetables in the different income groups, a less variation than with any other items of food.

TABLE 20.—*Absence of fruits and vegetables from diet, by earnings of chief breadwinner.*

Earnings of chief breadwinner.	Children 2 to 7 years of age.				
	Total.	Having no vegetables in diet.		Having no fruits in diet.	
		Number.	Per cent.	Number.	Per cent.
Total.....	6,015	3,082	50.4	3,615	60.1
Under \$850.....	851	462	54.3	614	72.2
\$850 to \$1,049.....	923	508	55.0	624	67.6
\$1,050 to \$1,249.....	1,065	567	55.2	674	63.3
\$1,250 to \$1,449.....	843	417	49.5	503	59.7
\$1,450 to \$1,849.....	1,041	485	46.6	581	55.8
\$1,850 to \$2,249.....	378	149	39.4	169	44.7
\$2,250 and over.....	441	196	44.4	134	30.4
No chief breadwinner and no earnings.....	129	76	58.9	98	76.0
Not reported.....	344	172	50.0	218	63.4

### Potatoes.

Potatoes were found in many cases to be the one redeeming feature of an otherwise totally deficient diet. Taking the place, as they usually do, of other starchy foods—bread, macaroni, rice—they improve the diet in several respects. The starchy foods named are valuable for little more than the energy which they yield, while potatoes furnish the same energy and valuable minerals in addition, especially if cooked in their skins. Potatoes, moreover, leave an alkaline residue on oxidation in the body, in contrast with the acid residue left by bread or rice. In view of these dietary properties of the potato as well as of the extremely limited use of other vegetables and of fruits, it is gratifying to find that nearly two-thirds (62.7 per cent) of the children whose diets were studied had potatoes

once a day or oftener—48.7 per cent having them once, and 14 per cent two or even three times. (Table 21.)

TABLE 21.—*Number of times potatoes used daily,<sup>1</sup> by earnings of chief breadwinner.*

Children 2 to 7 years of age.													
Earnings of chief breadwinner.	Total.	Having no potatoes in diet.		Having potatoes specified number of times daily. <sup>1</sup>								Not reported.	
				Total.		Once.		Twice.		Three times and over.			
		Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
	Total.....	6,015	2,169	36.1	3,774	62.7	2,932	48.7	781	13.0	61	1.0	72
Under \$850.....	851	382	44.9	454	53.3	352	41.4	84	9.9	18	2.1	15	1.8
\$850 to \$1,049.....	923	428	46.4	488	52.9	396	42.9	91	9.9	1	.1	7	.8
\$1,050 to \$1,249.....	1,065	434	40.8	619	58.1	503	47.2	105	9.9	11	1.0	12	1.1
\$1,250 to \$1,449.....	843	276	32.7	560	66.4	446	52.9	102	12.1	12	1.4	7	.8
\$1,450 to \$1,849.....	1,041	280	26.9	748	71.9	556	53.4	182	17.5	10	1.0	13	1.2
\$1,850 to \$2,249.....	378	100	26.5	276	73.0	214	56.6	59	15.6	3	.8	2	.5
\$2,250 and over.....	441	101	22.9	335	76.0	227	51.5	103	23.4	5	1.1	5	1.1
No chief breadwin- ner and no earnings	129	48	37.2	79	61.2	65	50.4	14	10.9	.....	.....	2	1.6
Not reported.....	344	120	34.9	215	62.5	173	50.3	41	11.9	1	.3	9	2.6

<sup>1</sup> Information relates to day preceding agent's visit.

*Use of potatoes and nationality.*—As might be expected, the native whites and the Germans were responsible for the high average use of potatoes, 82.4 per cent of the children of the former and 69.7 per cent of those of the latter having had potatoes. Of the children of Slovak mothers 60.4 per cent, and of those of Polish, Lithuanian, and Magyar mothers 56, 52, and 46.4 per cent, respectively, had potatoes. Only 43.1 per cent of the children of Serbo-Croatian mothers had potatoes, while at the bottom of the list were the Italians with only 37.4 per cent having this article of diet, or, to put the matter conversely, with 60.4 per cent—three-fifths—having none at all. Considering the general use of spaghetti and macaroni in this group this small use of potatoes is not surprising.

*Use of potatoes and income.*—Though potatoes were used more generally than any other of the special items discussed except meat, the consumption of this food increased somewhat in the higher income groups. This is shown by the fact that 44.9 per cent of the children in the group with earnings under \$850 were without potatoes, while but 22.9 per cent of the children in the highest earnings group lacked them. (Table 21.)

## Cereals.

Although cereals—in the sense of breakfast foods—can not be considered absolutely essential in a child's dietary, it is the judgment of specialists that a well-cooked cereal can wisely be made a regular

part of a young child's breakfast. It provides a warm, bland, easily digested food for the morning meal and makes an excellent carrier for milk. Moreover, if whole cereals are used for at least a part of the time, the iron, phosphorus, and vitamine contributions are quite considerable. The custom of the children studied in respect to the use of this article of diet, therefore, was noted with interest.

A glance at Table 22 shows that cereals played but a small part in the dietaries of these children, only 20.8 per cent of the total number of children being reported as having a cereal on the day of the study.

*Use of cereals and nationality.*—The children of native white mothers, even though less than one-third (32.1 per cent) of them had a cereal, appear to have been the greatest users of cereals. Next in order are the children of German and Polish mothers, with 21.1 and 16.3 per cent, respectively, having a cereal. The children of the Serbo-Croatian, the Italian, and the Lithuanian mothers may be considered as not using cereals, since but 8.5, 8.3, and 6.2 per cent, respectively, of the children in these groups had cereal the day the record was taken.

TABLE 22.—*Use of cereal in diet, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.						
	Total.	Having no cereal in diet.		Having cereal in diet.		Not reported.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>
Total.....	6, 015	4, 606	76. 6	1, 249	20. 8	160	2. 7
White.....	5, 777	4, 408	76. 3	1, 215	21. 0	154	2. 7
Native.....	1, 843	1, 142	62. 0	591	32. 1	110	6. 0
Foreign-born.....	3, 934	3, 266	83. 0	624	15. 9	44	1. 1
Polish.....	923	764	82. 8	150	16. 3	9	1. 0
Serbo-Croatian.....	587	533	90. 8	50	8. 5	4	. 7
Slovak.....	546	431	78. 9	114	20. 9	1	. 2
Magyar.....	291	251	86. 3	38	13. 1	2	. 7
Italian.....	265	237	89. 4	22	8. 3	6	2. 3
German.....	228	175	76. 8	48	21. 1	5	2. 2
Lithuanian.....	225	207	92. 0	14	6. 2	4	1. 8
All other.....	869	668	76. 9	188	21. 6	13	1. 5
Negro.....	232	196	84. 5	31	13. 4	5	2. 2
Not reported.....	6	2	.....	3	.....	1	.....

<sup>1</sup> Not shown where base is less than 100.

*Use of cereals and income.*—Since cereals are among the cheapest foods available, they should show little variation in use with income. Nevertheless the difference between the lowest and highest earnings groups in the use of cereals is not inconsiderable, 12.6 per cent of the children in the former and 29.9 per cent of those in the latter group having them. (Table 23.) Neither group, however, as these percentages show, used them to any great extent.



TABLE 23.—*Use of cereal in diet, by earnings of chief breadwinner.*

Earnings of chief breadwinner.	Children 2 to 7 years of age.						
	Total.	Having no cereal in diet.		Having cereal in diet.		Not reported.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	6, 015	4, 606	76. 6	1, 249	20. 8	160	2. 7
Under \$850.....	851	728	85. 5	107	12. 6	16	1. 9
\$850 to \$1,049.....	923	752	81. 5	164	17. 8	7	0. 8
\$1,050 to \$1,249.....	1, 065	831	78. 0	218	20. 5	16	1. 5
\$1,250 to \$1,449.....	843	644	76. 4	177	21. 0	22	2. 6
\$1,450 to \$1,849.....	1, 041	760	73. 0	249	23. 9	32	3. 1
\$1,850 to \$2,249.....	378	262	69. 3	101	26. 7	15	4. 0
\$2,250 and over.....	441	274	62. 1	132	29. 9	35	7. 9
No earnings and no chief breadwinner.....	129	100	77. 5	28	21. 7	1	. 8
Not reported.....	344	255	74. 1	73	21. 2	16	4. 7

**Eggs.**

An egg—or at least the yolk of it—is usually included in the daily diet of young children who are being fed with due consideration for their bodily needs. The white is not regarded as essential if milk, which also provides good growth proteins, is liberally used, but the yolk is desirable in any case because of its valuable iron and phosphorus. If for any reason the milk supply is low, the need of eggs in the diet becomes more urgent.

The records on which this study is based were obtained during the spring and summer months, when eggs are cheapest and can be expected to be more commonly used. This record, therefore, doubtless does full justice to the use of eggs on the part of these children.

*Use of eggs and nationality.*—An examination of Table 24 shows that the diets of more than half (59.5 per cent) the children were without eggs and that a still larger percentage in most of the race and nationality groups lacked them. Classified according to the absence of eggs from the diets of the children, the Negroes and the Polish come first, the Slovaks, Italians, Lithuanians, Serbo-Croatians, and Magyars second, and the Germans and the native whites third. About three-fourths of the children in Group 1, two-thirds of those in Group 2, and one-half of those in Group 3 had diets including no eggs.

TABLE 24.—*Number of times eggs used daily,<sup>1</sup> by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.										
	Total.	Having no eggs in diet.		Having eggs specified number of times daily. <sup>1</sup>						Not reported.	
				Once.		Twice.		Three times and over.			
		Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent.
Total.....	6, 015	3, 577	59.5	1, 927	32.0	394	6.6	45	0.7	72	1.2
White.....	5, 777	3, 394	58.8	1, 889	32.7	383	6.6	45	0.8	66	1.1
Native.....	1, 843	886	48.1	787	42.7	121	6.6	18	1.0	31	1.7
Foreign-born.....	3, 934	2, 508	63.8	1, 102	28.0	262	6.6	27	.7	35	.9
Polish.....	923	696	75.4	175	19.0	40	4.3	3	.3	9	.9
Serbo-Croatian.....	587	375	63.9	168	28.6	37	6.3	3	.5	4	.7
Slovak.....	546	373	68.3	144	26.4	27	4.9	1	.2	1	.2
Magyar.....	291	184	63.2	80	27.5	24	8.2	1	.3	2	.7
Italian.....	265	180	67.9	63	23.8	13	4.9	3	1.1	6	2.3
German.....	228	111	48.7	92	40.4	22	9.6	1	.4	2	.9
Lithuanian.....	225	150	66.7	58	25.8	12	5.3	1	.4	4	1.8
All other.....	869	439	50.5	322	37.1	87	10.0	14	1.6	7	.8
Negro.....	232	179	77.2	37	15.9	10	4.3	—	—	6	2.6
Not reported.....	6	4	—	1	—	1	—	—	—	—	—

<sup>1</sup> Information relates to day preceding agent's visit.<sup>2</sup> Not shown where base is less than 100.

*Use of eggs and income.*—The presence or absence of eggs in the dietary appears to bear some relation likewise to income, since the proportion of diets containing eggs increases from 30.6 per cent in the group with incomes under \$850 to 56.7 per cent in that with earnings of \$2,250 or over. (Table 25.)

TABLE 25.—*Use of eggs in diet, by earnings of chief breadwinner.*

Earnings of chief breadwinner.	Children 2 to 7 years of age.						
	Total.	Having no eggs in diet.		Having eggs in diet.		Not reported.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	6,015	3,577	59.5	2,366	39.3	72	1.2
Under \$850.....	851	576	67.7	260	30.6	15	1.8
\$850 to \$1,049.....	923	591	64.0	325	35.2	7	.8
\$1,050 to \$1,249.....	1,065	701	65.8	351	33.0	13	1.2
\$1,250 to \$1,449.....	843	493	58.5	343	40.7	7	.8
\$1,450 to \$1,849.....	1,041	555	53.5	473	45.4	13	1.2
\$1,850 to \$2,249.....	378	178	47.1	198	52.4	2	.5
\$2,250 and over.....	441	186	42.2	250	56.7	5	1.1
No chief breadwinner and no earnings.....	129	85	65.9	43	33.3	1	.8
Not reported.....	344	212	61.6	123	35.8	9	2.6

This conspicuous lack of eggs is significant in connection with the shortage of milk—the other principal source of phosphorus and adequate proteins—and the limited use of vegetables, fruits, and whole cereals which would be expected to furnish iron in the absence of eggs.

**Meat.**

A striking feature of the diet schedules was the frequency with which meat appeared even in the poorest kind of diets. (Table 26.) Two-thirds (65.7 per cent) of the entire group of children had meat during the day studied, and 18.7 per cent had it two or three times. This use of meat, in view of the fact that amounts are not known, can not be regarded as excessive save in connection with the omission of other more essential items of the diet—milk in particular. When it is recalled that only 18.9 per cent of the children had the minimum amount of milk daily, that 57.2 per cent had none to drink, and that 16.1 per cent had none at all, even in food, it will be readily agreed that the meat might well have been reduced or omitted entirely and the money spent for it put into milk.

TABLE 26.—*Number of times meat used daily.*<sup>1</sup>

Number of times meat used daily. <sup>1</sup>	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
Having no meat.....	1,993	33.1
Having meat.....	3,951	65.7
Once.....	2,829	47.0
Twice.....	1,037	17.2
Three times.....	85	1.4
Not reported.....	71	1.2

<sup>1</sup> Information relates to day preceding agent's visit.

*Meat and milk consumption.*—That meat was deemed a more essential or at least a more desirable item of diet than milk is evident from the fact that two-thirds (66.6 per cent) of the children who received less than a pint of milk had meat, and 17.7 per cent of them had it twice or oftener. (Table 27.) Indeed, slightly over two-thirds (67.4 per cent) of the children with no milk at all to drink had meat, and 21.4 per cent of them ate it twice or more times daily. The contrast between meat and milk consumption is even more striking in the group of 970 children which had no milk either as beverage or in food. Even though milk was totally absent from these 970 diets 678, or 69.9 per cent, of them included meat and one-fourth (24.8 per cent) included meat more than once a day. These facts would seem to emphasize the observation made in previous discussions that the failure to use milk is not solely a question of expense—though this is a determining factor—but also one of ignorance of its value in the diet. The amount of money required to purchase meat for one or two servings, even though they were small, would suffice to buy at least a small amount of milk.

TABLE 27.—*Number of times meat used daily,<sup>1</sup> by amount of milk used as a beverage.*

Amount of milk used as a beverage.	Children 2 to 7 years of age.										
	Total.	Having no meat in diet.		Having meat in diet specified number of times daily. <sup>1</sup>						Not reported.	
				Total.		Once.		More than once.			
		Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
Total.....	6,015	1,993	33.1	3,951	65.7	2,829	47.0	1,122	18.7	71	1.2
No milk used as beverage.....	3,443	1,106	32.1	2,322	67.4	1,584	46.0	738	21.4	15	.4
No milk in food.....	970	292	30.1	678	69.9	437	45.1	241	24.8	.....	.....
Milk in food.....	2,473	814	32.9	1,644	66.5	1,147	46.4	497	20.1	15	.6
Less than 1 pint.....	1,294	431	33.3	862	66.6	633	48.9	229	17.7	1	.1
One pint and over.....	1,139	427	37.5	711	62.4	568	49.9	143	12.6	1	.1
Not reported.....	139	29	20.9	56	40.3	44	31.7	12	8.6	54	38.8

<sup>1</sup> Information relates to day preceding agent's visit.

\* Includes 159 children for whom item was not reported.

Meat is doubtless chosen instead of milk because it is regarded as a food and milk merely as a beverage, and likewise because of its palatability. Children, moreover, who are allowed what meat they want are likely to refuse milk as less attractive food.

*Meat and grade of diet.*—It is significant that meat appears to have made little difference in the diet grade. Except for the class E diets, which were almost entirely carbohydrate, and only 4.8 per cent of which contained meat, the use of meat was approximately the same, not far from two-thirds of the children in each of the other four groups having had meat on the day studied. (Table 28.) However, it is interesting to note, while no children with A diets had meat twice a day, 20.5 per cent of all diets classed as D contained meat two or more times a day, and it is further worthy of comment that two-thirds of all the children who had meat more than once daily were in the D or inadequate diet group not because of the presence of the meat, to be sure, but in spite of it. This bears evidence to the fact that meat alone can not save a diet from inadequacy no matter how much nor how frequently it is used.

TABLE 28.—*Number of times meat used daily,<sup>1</sup> by grade of diet.*

Grade of diet.	Children 2 to 7 years of age.										
	Total.	Having no meat in diet.		Having meat specified number of times daily. <sup>1</sup>						Not reported.	
				Total.		Once.		More than once.			
		Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>
Total.....	6, 015	1, 993	33. 1	3, 951	65. 7	2, 829	47. 0	1, 122	18. 7	71	1. 2
A.....	25	8	.....	17	.....	17	.....	.....	.....	.....	.....
B.....	509	111	21. 8	398	78. 2	313	61. 5	85	16. 7	.....	.....
C.....	1, 757	563	32. 0	1, 192	67. 8	881	50. 1	311	17. 7	2	. 1
D.....	3, 514	1, 185	33. 7	2, 327	66. 2	1, 605	45. 7	722	20. 5	2	. 1
E.....	125	119	95. 2	6	4. 8	6	4. 8	.....	.....	.....	.....
Not reported.....	85	7	.....	11	.....	7	.....	4	.....	67	.....

<sup>1</sup> Information relates to day preceding agent's visit.<sup>2</sup> Not shown where base is less than 100.

*Use of meat and nationality.*—It has been shown that an average of two-thirds of the diets studied contained meat. The prevalence of meat eating among the different nationality groups may be observed in Table 29. A glance at the two columns "per cent having no meat," and "per cent having meat," gives no impression of any striking national differences in the use of meat such as are commonly assumed to exist. Nevertheless if these nationality groups are arranged in order of decreasing use of meat, as shown in Table 30, fairly wide differences between the highest and the lowest in the list are apparent.

TABLE 29.—*Number of times meat used daily,<sup>1</sup> by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.										
	Total.	Having no meat in diet.		Having meat specified number of times daily. <sup>1</sup>						Not reported.	
				Total.		Once.		More than once.			
		Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent.
Total.....	6, 015	1, 993	33. 1	3, 951	65. 7	2, 829	47. 0	1, 122	18. 7	71	1. 2
White.....	5, 777	1, 210	33. 1	3, 801	65. 8	2, 736	47. 4	1, 065	18. 4	66	1. 1
Native.....	1, 843	527	28. 6	1, 285	69. 7	981	53. 2	304	16. 5	31	1. 7
Foreign-born.....	3, 934	1, 383	35. 2	2, 516	64. 0	1, 755	44. 6	761	19. 3	35	. 9
Polish.....	923	368	39. 9	546	59. 2	420	45. 5	126	13. 7	9	1. 0
Serbo-Croatian.....	587	256	43. 6	327	55. 7	235	40. 0	92	15. 7	4	. 7
Slovak.....	546	183	33. 5	362	66. 3	250	45. 8	112	20. 5	1	. 2
Magyar.....	291	71	24. 4	218	74. 9	140	48. 1	78	26. 8	2	. 7
Italian.....	265	108	40. 8	151	57. 0	107	40. 4	44	16. 6	6	2. 3
German.....	228	67	29. 4	159	69. 7	110	48. 2	49	21. 5	2	. 9
Lithuanian.....	225	48	21. 3	173	76. 9	108	48. 0	65	28. 9	4	1. 8
All other.....	869	282	32. 5	580	66. 7	385	44. 3	195	22. 4	7	. 8
Negro.....	232	82	35. 3	145	62. 5	89	38. 4	56	24. 1	5	2. 2
Not reported.....	6	1	.....	5	.....	4	.....	1	.....	.....	.....

<sup>1</sup> Information relates to day preceding agent's visit.<sup>2</sup> Not shown where base is less than 100.

TABLE 30.—*Use of meat by nationality of mother.*

Nationality of mother.	Per cent of children having meat.	Per cent of children having meat two or more times.	Per cent of children having no meat.
Above average:			
Lithuanian.....	76.9	28.9	21.3
Magyar.....	74.9	26.8	24.4
Average:			
German.....	69.7	21.5	29.4
Native white.....	69.7	16.5	28.6
Slovak.....	66.3	20.5	33.5
Negro.....	62.5	24.1	35.3
Below average:			
Polish.....	59.2	13.7	39.9
Italian.....	57.0	16.6	40.8
Serbo-Croatian.....	55.7	15.7	43.6

About three-fourths of the children of Lithuanian and Magyar parentage, two-thirds of those of German, native white, Slovak, and Negro parentage, and more than half of those of Polish, Italian and Serbo-Croatian parentage had meat during the day. The variation in the proportion having meat twice or oftener daily corresponds roughly with that in the proportion having meat at least once—the group containing the most meat users having also the highest percentage with meat more than once; and the group having the least containing similarly the smallest number using it two or more times.

It is interesting to note that the Italians and the Poles, the former frequently credited with being light and the latter with being heavy users of meat, are in the same group. This report, it must be borne in mind, deals only with meat eating among the young children and does not give any record of amounts eaten. Conclusions contrary to the general belief concerning quantities of meat eaten or its consumption by adults of these nationalities can not, therefore, be assumed from these findings.

*Use of meat and income.*—That the use of meat is determined to only an inconsiderable extent by economic status is apparent from Table 31. It may be remarked that not only did two-thirds of all the children have meat on the day of the study but the average for the several earnings groups varied but slightly. With an income under \$850 a family would unquestionably be better nourished if meat were foregone entirely and the money put into more essential foods. Yet 61.1 per cent of the children in this earnings group had meat, and 17.2 per cent had it two or more times—a record but little under that of the children in the highest income group, of whom 68.5 per cent had meat and 16.3 per cent had it twice or oftener.

TABLE 31.—*Number of times meat used daily,<sup>1</sup> by earnings of chief breadwinner.*

Earnings of chief breadwinner.	Children 2 to 7 years of age.										
	Total.	Having no meat in diet.		Having meat specified number of times daily. <sup>1</sup>						Not reported.	
				Total.		Once.		More than once.			
		Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
		Total.....	6, 015	1, 993	33. 1	3, 951	65. 7	2, 829	47. 0	1, 122	18. 6
Under \$850.....	851	316	37. 1	520	61. 1	374	43. 9	146	17. 2	15	1. 8
\$850 to \$1, 049.....	923	334	36. 2	582	63. 1	401	43. 4	181	19. 6	7	. 8
\$1, 050 to \$1, 249.....	1, 065	357	33. 5	696	65. 4	496	46. 6	200	18. 8	12	1. 1
\$1, 250 to \$1, 449.....	843	264	31. 3	572	67. 9	389	46. 1	183	21. 7	7	. 8
\$1, 450 to \$1, 849.....	1, 041	304	29. 2	724	69. 5	531	51. 0	193	18. 5	13	1. 2
\$1, 850 to \$2, 249.....	378	105	27. 8	271	71. 7	196	51. 9	75	19. 8	2	. 5
\$2, 250 and over.....	441	134	30. 4	302	68. 5	230	52. 2	72	16. 3	5	1. 1
No chief breadwinner and no earnings.....	129	60	46. 5	68	52. 7	52	40. 3	16	12. 4	1	. 8
Not reported.....	344	119	34. 6	216	62. 8	160	46. 5	56	16. 3	9	2. 6

<sup>1</sup> Information relates to day preceding agent's visit.

The most outstanding feature of the meat situation as revealed by the foregoing discussion is the uniformly large proportion of the children studied who were receiving meat. Regardless of financial status, of the nationality of the mother, of the presence or absence of milk, or of the adequacy or inadequacy of the diet as a whole, about two-thirds of all the children were receiving meat once or oftener daily. Meat was evidently the one food which was deemed most essential or most desirable by a considerable majority of the families in the group studied, and was purchased and eaten whatever else had to be foregone.

### Items of diet lacking.

The use of each of the seven foods which are the foundation of a child's diet—milk, eggs, cereal, vegetables, fruits, potatoes, and meat—has been considered separately. In most instances large percentages of children have been without the particular item of diet in question. The query naturally arises: To what extent are these seven foods, considered together, absent from the individual dietaries? Table 32 gives the number of children lacking one, two, three, or more of these items of diet, up to and including the entire seven. The table does not, however, show what particular combinations of foods are missing.

TABLE 32.—*Number of items lacking in diet.*

Number of items lacking in diet.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6,015	100.0
No items lacking.....	97	1.6
Less than 4.....	3,113	51.8
1.....	475	7.9
2.....	1,071	17.8
3.....	1,567	26.1
4 and over.....	2,735	45.5
4.....	1,460	24.3
5.....	889	14.8
6.....	338	5.6
7.....	48	.8
Not reported.....	70	1.2

According to this table 97 children, or 1.6 per cent of the total number, lacked none of these seven articles of diet; 7.9 per cent lacked but one; 17.8 per cent, two; and 26.1 per cent, three. Up to this number the omissions may conceivably have been such as not seriously to affect the diet—as, for example, meat, eggs, and cereal, the absence of which would still leave an adequate diet if sufficient milk were used. But if milk, vegetables, and fruits were the three left out, or if milk alone were missing, it would be a serious matter.

It is highly improbable that any diet lacking four or more of these foods would be satisfactory. Nevertheless, nearly half (45.5 per cent) of the children lacked four of the specified items, 5.6 per cent lacked as many as six items, and 48 children did not have a single one of the seven.

With all seven items missing little remains but bread, coffee, spaghetti, and sweets; and any diet composed of these foods alone would, of course, be hopelessly inadequate.

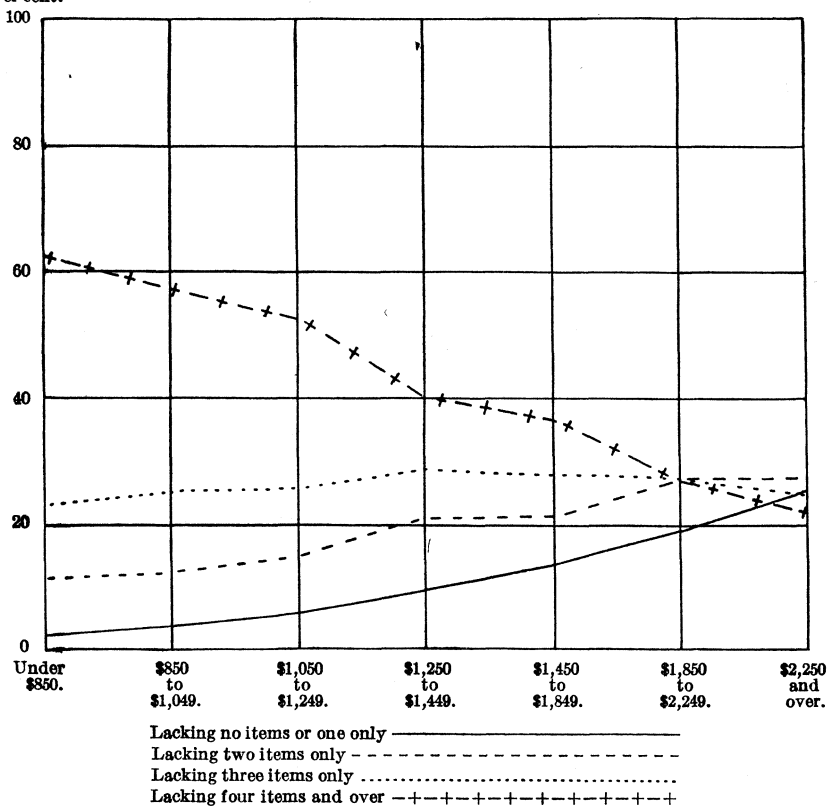
*Income and absence of specified items.*—One naturally turns to the income for an explanation of these omissions, and Chart VII shows that this expectation is at least partially warranted. The proportion of children who lacked less than four items was low in the lowest income group and increased to a maximum in the highest earnings group; while the proportion of children who lacked four or more items was high in the lower income groups and decreased materially in the higher ones.

Since nearly one-fourth (27 per cent and 22.2 per cent, respectively) of the children in the two highest earnings groups lacked as many as four of these articles of diet, poverty can not justly be made to bear the whole burden of responsibility for such omissions



CHART VII.—Per cent of children 2 to 7 years of age lacking specified number of items in diet, by earnings of chief breadwinner.

Per cent.



*Nationality and absence of specified items.*—On the basis of the percentage of children reported as lacking four or more of the specified items of diet the Serbo-Croatians, with 71.4 per cent of their children lacking four or more items, had the poorest record. (Table 33.) The Negroes, with 69 per cent, were not far behind. The Lithuanian, Italian, and Polish groups followed, with 65.8, 63.4, and 60.5 per cent, respectively; and the diets of 53.8 per cent of the children of Slovak mothers and of 47.8 per cent of the children of Magyar mothers were likewise lacking. The children of German mothers (with 31.6 per cent) and those of native white mothers (with 22.7 per cent), as might be expected from their having the best ratings relative to the individual foods, had the best records in this respect.

TABLE 33.—*Number of items lacking in diet, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.																					
	Lacking specified number of items in diet.																					
	Less than 4.										4 and over.										Not reported.	
	None.		1		2		3		Total.		4		5		6		7					
	Num. ber.	Per cent.	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent.	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent.	Num. ber.	Per cent.	Num. ber.	Per cent.				
Num. ber.																			Per cent. <sup>1</sup>	Num. ber.		Per cent.
Total.	97	1.6	3,113	51.8	475	7.9	1,071	17.8	1,567	26.1	2,735	45.5	1,460	24.3	889	14.8	338	5.6	48	0.8	70	1.2
Total.	6,015		3,043	52.7	471	8.2	1,050	18.2	1,522	26.3	2,574	44.6	1,386	24.0	833	14.4	310	5.4	45	.8	65	1.1
White.	5,777		2,921	50.4	464	8.0	1,009	17.5	1,485	25.7	2,538	44.1	1,370	23.7	822	14.4	304	5.4	44	.8	64	1.1
Native.	1,843	72	3.9	71.7	305	16.5	509	27.6	508	27.6	418	22.7	267	14.5	114	6.2	34	1.8	3	.2	31	1.7
Foreign-born.	3,934	23	.6	43.7	166	4.2	541	13.8	1,014	25.8	2,156	54.8	1,119	28.4	719	18.3	276	7.0	42	1.1	34	1.0
Polish.	923		356	38.6	17	1.8	91	9.9	248	26.9	558	60.5	284	30.8	190	20.6	72	7.8	12	1.3	9	1.0
Serbo-Croatian.	587	1	.2	27.8	6	1.0	42	7.2	115	19.6	419	71.4	176	30.0	153	26.1	78	13.3	12	2.0	4	.7
Slovak.	546		251	46.0	21	3.8	73	13.4	157	28.8	294	53.8	158	28.9	90	16.5	33	6.0	13	2.4	1	.2
Magyar.	291	3	1.0	50.9	7	2.4	47	16.2	94	32.3	139	47.8	77	26.5	42	14.4	19	6.5	1	.3	1	.3
Italian.	265		91	34.3	3	1.1	35	13.2	53	20.0	168	63.4	97	36.8	59	22.3	10	3.8	2	.8	2	.9
German.	228	7	3.1	64.5	24	10.5	54	23.7	69	30.3	172	31.6	41	18.0	18	7.9	11	4.8	2	.9	2	.9
Lithuanian.	225		73	32.4	7	3.1	18	8.0	48	21.3	148	65.8	70	31.1	57	25.3	21	9.3	4	1.8	4	1.8
All other.	869	12	1.4	56.6	81	9.3	181	20.8	230	26.5	358	41.2	216	24.9	110	12.7	32	3.7	7	.8	7	.8
Negro.	232	2	.8	28.0	3	1.3	17	7.3	45	19.4	160	69.0	73	31.5	56	24.1	28	12.1	3	1.3	5	2.2
Not reported.	6		5		1		4				1		1									

<sup>1</sup> Not shown where base is less than 100.

## CUSTOMS REGARDING CERTAIN DIETARY PRACTICES.

Although the chief concern in feeding children should be the provision of such foods as will supply all the needed nutritive materials, the technique of feeding is important if full success—or often any success at all—in feeding children is to be attained. Not only the foods given, therefore, but the suitability of those foods to the digestive tract of the child, the number of meals a day in which they are eaten, the regularity of hours, whether or not foods are allowed between meals, and the character of each meal must also be considered. A diet may contain everything necessary for good nutrition and yet fail to produce a well-nourished child, because of unfavorable practices in respect to one or more of the conditions mentioned. The significance of each of these conditions to the well-being of the child, and the custom of the children studied in respect to each, therefore form an important part of this dietary study.

### Suitability of foods to age of children.

It is usually assumed that a healthy adult can eat and digest practically any food, raw or cooked, and his dietary, therefore, is allowed to include a great variety of food prepared in many different ways. Whether or not this is a wise practice may well be questioned; such a procedure can not be followed in feeding young children without unfavorable results. The digestive tract of the child is not fully developed and is not equal to the task of digesting many foods which would be entirely wholesome for an adult. In feeding children, therefore, only simple, easily digested foods should be given in the earlier years; other foods may be very gradually introduced as the digestive tract becomes more able to care for them. For this reason pies, rich pastries, fried foods, and other foods difficult of digestion are excluded from dietaries planned for children of preschool age.

That little or no consideration was given to the suitability of food to the digestive tract of the child was one of the facts most apparent in the present study of Gary children. (Table 34.) Only 3.4 per cent of all the children's diets, in fact, bore evidence that they were planned with the age of the child in mind. These consisted of milk, cereals, and simply cooked foods—potatoes, meat, vegetables, and fruits—and instead of pie they included fruits or simple puddings.

It was plainly evident from most of the schedules that the meals were prepared for the father and that all the family from the 2-year-

old up ate the same meal. It was not uncommon to find the day's diet for a 2- or 3-year-old child similar to the following:

Breakfast: Ham and eggs, fried potatoes, coffee.

Dinner: Baked beans, catsup, bread, coffee.

Supper: Roast pork, potatoes browned in pork fat, gravy, fried onions, apple pie, cheese and coffee.

The diets of more than 18 per cent of the children were of this general type, though not always so extreme as this one. Such a diet might perhaps be suited to the digestive capacity of a miner or lumberman but is utterly unsuited to the delicate digestive organs of a 6-year-old child, much less those of a 2-year-old.

There was distinctly more favorable feeding in respect to suitability of foods among the native groups than among the colored and the foreign born. Of the children of native mothers 8.8 per cent had diets which appeared to be planned for children (the average for all nationality groups was 3.4 per cent) while only 1.1 per cent of the children of the foreign born and but 0.4 per cent of the colored children had such diets. Among the Lithuanians, Magyars, and Italians not a single child had a diet suited to his age, and but 1 child of a Polish mother, 2 of German mothers, and 5 of Serbo-Croatian mothers were thus favored.

TABLE 34.—*Type of meals, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.								
	Total.	Type of meals.							
		Suitable.		Unsuitable.		Indeterminate.		Not reported.	
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	6,015	207	3.4	1,101	18.3	4,641	77.2	66	1.1
White.....	5,777	205	3.5	1,038	18.0	4,473	77.4	61	1.1
Native.....	1,843	163	8.8	371	20.1	1,290	69.5	29	1.6
Foreign-born.....	3,934	42	1.1	667	17.0	3,193	81.2	32	.8
Polish.....	923	1	.1	136	14.7	778	84.3	8	.9
Serbo-Croatian.....	587	5	.9	79	13.5	500	85.2	3	.5
Slovak.....	540	1	.2	92	16.8	452	82.8	1	.2
Magyar.....	291	.....	.....	72	24.7	217	74.6	2	.7
Italian.....	265	.....	.....	64	24.2	195	73.6	6	2.3
German.....	228	2	.9	50	21.9	173	75.9	3	1.3
Lithuanian.....	225	.....	.....	31	13.8	190	84.4	4	1.8
All other.....	869	33	3.8	143	16.5	688	79.2	5	.6
Negro.....	232	1	.4	63	27.2	163	70.3	5	2.2
Not reported.....	6	1	.....	.....	.....	5	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

*Type of evening meal.*—It is usually considered wise to have the young child's evening meal, especially, an easily digested one, for his bedtime should come shortly thereafter and such a meal is more conducive to a comfortable night's rest. Hence the custom of having the dinner at noon and having a supper of cereal, milk, bread,

and fruit; baked potato, soft egg, bread, and milk; or some other equally simple combination.

As a fact, more than 60 per cent of the children studied had evening meals which—to use the popular terminology—were distinctly “heavy,” i. e., were of a type similiar to the one already referred to and not conducive to either ease or quickness of digestion. (Table 35.) Only 9.1 per cent of the children, on the other hand, had evening meals which were suitably simple, though 13.7 per cent more, who had their dinners at night, might be classed in this group since their evening meals could not be called “heavy.” Even if these are included, a total of less than one-fourth of the children (22.8 per cent) had simple evening meals of the desired type.

TABLE 35.—*Type of evening meal.*

Type of evening meal.	Children 2 to 7 years of age.	
	Number.	Per cent distribution.
Total.....	6, 015	100. 0
Heavy.....	3, 655	60. 8
Principal meal but not heavy.....	826	13. 7
Light.....	545	9. 1
Not reported, and no evening meal.....	989	16. 4

*Number and regularity of meals.*—Most of the children studied (95.9 per cent) had three meals a day. (Table 36.) Some children however, 126, had but two meals a day, 67 had four meals or more, and 7 children had but one. The number of meals bears little relation to the age of the child, though a slightly higher proportion of 2- and 3-year-old children than of the older groups had four meals.

TABLE 36.—*Number of meals daily,<sup>1</sup> by age of child.*

Age of child.	Children 2 to 7 years of age.										
	Total.	Number of meals daily. <sup>1</sup>									
		1		2		3		4 and over.		Not reported.	
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent. <sup>2</sup>	Num- ber.	Per cent.	Num- ber.	Per cent.
Total.....	6, 015	7	0. 1	126	2. 1	5, 770	95. 9	67	1. 1	45	0. 7
2 years, under 3.....	1, 079	2	. 2	26	2. 4	1, 031	95. 6	17	1. 6	3	. 3
3 years, under 4.....	1, 437	2	. 1	36	2. 5	1, 367	95. 1	24	1. 7	8	. 6
4 years, under 5.....	1, 233			23	1. 9	1, 192	96. 7	8	. 6	10	. 8
5 years, under 6.....	1, 100	1	. 1	19	1. 7	1, 055	95. 9	11	1. 0	7	. 7
6 years, under 7.....	1, 008	2	. 2	19	1. 9	973	96. 5	7	. 7	7	. 7
7 years, under 8.....	156			3	1. 9	150	96. 2			3	1. 9
Not reported.....	2					2					

<sup>1</sup> Information relates to day preceding agent's visit.<sup>2</sup> Not shown where base is less than 100.

Whether a child has three or four meals is a matter of less concern than is the regularity of his meals. All pediatricists emphasize the importance of having the meals of young children at unfailingly regular hours. Less than half (47 per cent) of the group studied, however, had regular hours for all three meals, though 43 per cent more had two of their meals at practically the same hours daily. There remain 9.1 per cent of the entire group, who had no regular hours for any of their meals. (Table 37.)

TABLE 37.—*Regularity of meals, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.								
	Total.	Regular hours for all meals.		Regular hours for 1 or 2 meals.		No regular hours.		Not reported.	
		Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.
Total.....	6,015	2,830	47.0	2,587	43.0	545	9.1	53	0.9
White.....	5,777	2,737	47.4	2,476	42.9	516	8.9	48	.8
Native.....	1,843	1,214	65.9	566	30.7	35	1.9	28	1.5
Foreign-born.....	3,934	1,523	38.7	1,910	48.6	481	12.2	20	.5
Polish.....	923	304	32.9	485	52.5	130	14.1	4	.4
Serbo-Croatian.....	587	171	29.1	334	56.9	78	13.3	4	.7
Slovak.....	546	186	34.1	273	50.0	87	15.9	.....	.....
Magyar.....	291	125	43.0	140	48.1	26	8.9	.....	.....
Italian.....	265	104	39.2	114	43.0	42	15.8	5	1.9
German.....	228	127	55.7	96	42.1	3	1.3	2	.9
Lithuanian.....	225	76	33.8	104	46.2	42	18.7	3	1.3
All other.....	869	430	49.5	364	41.9	73	8.4	2	.2
Negro.....	232	92	39.7	107	46.1	28	12.1	5	2.2
Not reported.....	6	1	.....	4	.....	1	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

Irregularity was more common among the foreign-born and the colored than among the native white group, approximately 39 per cent of the children having three meals at regular hours and 12.2 per cent having no regular hours for meals in the two former groups, in contrast to 65.9 per cent of the children who had three meals at regular hours and 1.9 per cent who had no regular hours for meals in the native white group. No striking differences were found among the children of the foreign-born groups. The record of the Lithuanians, with but one-third of their children having three meals at regular hours and nearly one-fifth (18.7 per cent) having no regular hours for meals, was one of the poorest. The children of German mothers, in this as in many other items, most closely approached the record of the children of native white mothers.

*Eating between meals.*—Eating between meals, or “piecing,” in this study includes all eating at times other than mealtimes, whether the number of meals is three or four. (A lunch such as bread and milk, taken daily at approximately the same hour, has been considered a meal rather than as eating between meals.) Even with this allow-

Color and nationality of mother.	Total.		Eating between meals.						No eating between meals.		Not reported.	
	Total.		Suitable food.			Unsuitable food.			Amount excessive.		Amount limited.	
	Number.	Per cent. <sup>1</sup>	Amount limited.		Per cent. <sup>1</sup>	Amount excessive.		Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent. <sup>1</sup>
			Number.	Per cent.		Number.	Per cent.					
Total.....	6,015	80.5	2,967	49.3	5.9	353	5.8	21.5	227	3.8	1,084	18.0
White.....	5,777	80.7	2,869	49.7	5.8	337	5.8	21.4	218	3.8	1,031	17.8
Native.....	1,843	66.6	876	47.5	3.7	69	3.7	13.9	26	1.4	573	31.1
Foreign-born.....	3,934	87.3	1,993	50.7	6.8	268	6.8	24.9	192	4.9	458	11.6
Polish.....	923	87.3	405	43.9	8.4	78	8.4	31.6	72	7.8	65	7.0
Serbo-Croatian.....	587	85.2	321	54.7	4.9	29	4.9	21.6	23	3.9	80	13.6
Slovak.....	546	89.2	279	51.1	4.9	27	4.9	26.6	36	6.6	58	10.6
Magyar.....	291	86.2	152	52.2	5.2	15	5.2	27.1	5	1.7	36	12.4
Italian.....	251	87.9	134	46.8	4.8	30	4.8	24.5	14	5.3	29	11.4
German.....	228	87.9	136	60.5	6.7	11	6.7	31.2	5	2.2	41	18.0
Lithuanian.....	207	92.0	117	52.0	7.3	15	7.3	31.1	5	3.7	134	15.4
All other.....	869	83.3	457	52.6	6.5	63	6.5	19.8	32	3.7	134	15.4
Negro.....	232	75.4	94	40.5	6.5	13	6.5	24.6	9	3.9	52	22.4
Not reported.....	6	.....	4	.....	.....	1	.....	.....	.....	.....	1	.....

<sup>1</sup> Not shown where base is less than 100.

ance, "piecing" was a common habit among the children, since only 18 per cent of them were reported as not eating between meals. A distinction should doubtless be made between the various types and degrees of piecing. One piece of bread and butter in the morning, for example, is of less importance than many "snacks" of bread eaten at odd times during the day; and a few cents' worth of candy eaten during the afternoon, serious as its effects may be, is of less consequence than candy, fruit, popcorn, nuts, and ice-cream cones indulged in at intervals all day long. Four types of eating between meals, therefore, conforming to these four illustrations, were recognized in classifying the diets. (Table 38.)

About one-half (49.3 per cent) of the children were classed as having moderate amounts of simple foods, such as bread and butter, milk, or fruit; while 5.9 per cent were having only such suitable foods but were having them so frequently or so indiscriminately as to make it appear a decidedly harmful practice. More than a fifth (21.5 per cent) were "piecing" on sweets or other undesirable articles and 3.8 per cent were plainly doing this to excess.

To what extent a small amount of simple food eaten between meals is harmful it is difficult to say. The consensus of opinion among specialists is that no food between meals is the safest rule. Indiscriminate eating of even wholesome foods, and the eating of sweets in particular, is without doubt an injurious practice. Nearly one-third (31.2 per cent) of the children, therefore, who were thus indulging in the "piecing" habit, were doing it probably to their detriment, and 9.6 per cent almost certainly so.

*Nationality and eating between meals.*—In the matter of "piecing," as in other factors already considered, the children of foreign-born mothers were less fortunate than the children of native white mothers, 31.1 per cent of the latter being free from the habit of eating between meals and only 5.2 per cent indulging in it to excess while only 11.6 per cent of the former did not eat between meals, and 11.7 per cent did it to excess. The children of Lithuanian and Polish mothers, with only 7 per cent free from "piecing," ranked at the bottom of the list; the children of Slovak and Italian mothers, with about 11 per cent free, came next; the children of German mothers, with 18 per cent, and Negro children, with 22.4 per cent not eating between meals, ranked nearest the native white group in freedom from this habit.

*Income and eating between meals.*—The children in the higher income groups—from the \$1,450 level upward—show a slight superiority over those in lower groups in respect to the custom of "piecing," the number free from this habit in the former groups averaging about 23 per cent and in the latter ranging from 17.6 per cent to only 11.9 per cent in families with incomes of less than \$850. (Table 39.)



## Eating between meals.

Earnings of chief breadwinner.	Eating between meals.										No eating between meals.		Not reported.		
	Total.		Suitable food.				Unsuitable food.								
			Amount limited.		Amount excessive.		Amount limited.		Amount excessive.						
			Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.					
Total.....	6,015	4,841	80.5	2,967	49.3	353	5.9	1,294	21.5	227	3.8	1,084	18.0	90	1.5
Under \$350.....	851	737	86.6	420	49.4	51	6.0	233	27.4	33	3.9	101	11.9	13	1.5
\$350 to \$1,049.....	923	762	82.6	434	47.0	65	7.0	218	23.6	45	4.9	152	16.5	9	1.0
\$1,050 to \$1,249.....	1,065	881	82.7	511	48.0	73	6.9	248	23.3	49	4.6	168	15.8	16	1.5
\$1,250 to \$1,449.....	843	683	81.0	424	50.3	42	5.0	187	22.2	30	3.6	148	17.6	12	1.4
\$1,450 to \$1,649.....	1,041	778	74.7	479	46.0	57	5.5	207	19.9	35	3.4	244	23.4	19	1.8
\$1,650 to \$2,249.....	378	287	75.9	198	52.4	23	6.1	50	13.2	16	4.2	88	23.3	3	.8
\$2,250 and over.....	441	337	76.4	252	57.1	15	3.4	62	14.1	8	1.8	97	22.0	7	1.6
No chief breadwinner and no earnings.....	129	103	79.8	67	51.9	9	7.0	26	20.2	1	.8	23	17.8	3	2.3
Not reported.....	344	273	79.4	182	52.9	18	5.2	63	18.3	10	2.9	63	18.3	8	2.3

There is nothing about low income itself which would tend toward increased "piecing," unless the more monotonous meals dull the children's appetites at mealtimes and thus favor eating between meals. On the other hand, in families of low income the less ample food supply would seem to limit rather than increase this practice.

Perhaps some other factor associated or coincident with low income, such as greater ignorance of a child's needs and lack of supervision in respect to this habit, produced the poor record for the low income groups. If so, these groups are not proved to be much more ignorant and neglectful in these respects than the highest earnings groups, as the latter had a record only slightly better.

### **Inadequate breakfasts.**

Not only should a young child be assured of sufficient food of the right kind, but this food should be distributed fairly evenly among the three meals, the breakfast and dinner being perhaps heartier than the evening meal. It is important, moreover, that none of these meals be omitted and that the breakfast in particular, following as it does the night abstinence and preceding a day of activity, should be ample. The habit of scanty breakfasts or none at all has in fact been found to be one of the chief factors contributing to malnutrition of children.

Large numbers of the preschool children studied had no breakfast at all or such meager and unsuitable breakfasts as: "One cup of coffee"; "1 cup coffee and 1 piece of apple pie"; "1 cup of coffee and several cookies"; "3 cakes"; or "one egg." It was found that one-third of all the children (32.6 per cent) had no breakfasts or breakfasts of this extremely inadequate type. (Table 40.) The breakfasts of many others were poor or were of questionable adequacy.

*Nationality and inadequate breakfasts.*—Poorest of the nationalities in respect to breakfasts were the Italians, since three-fifths (60.8 per cent) of their children were having no breakfasts, or only such inadequate ones as those just described. Next in order of inadequacy of breakfasts came the children of Polish, Serbo-Croatian, and Magyar mothers, of whom about half (55.1, 51.8, and 51.2 per cent, respectively) had breakfasts of this extremely poor type or none at all. The smallest proportions without adequate breakfasts were found among the children of German mothers (23.7 per cent), Negro mothers (16.8 per cent), and native white mothers (10.5 per cent).

TABLE 40.—*Inadequate breakfast, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.		
	Total.	Who had very inadequate breakfasts.	
		Number.	Per cent.
Total.....	6,015	1 1,960	32.6
White.....	5,777	1,921	33.3
Native.....	1,843	193	10.5
Foreign-born.....	3,934	1,728	43.9
Polish.....	923	509	55.1
Serbo-Croatian.....	587	304	51.8
Slovak.....	546	236	43.2
Magyar.....	291	149	51.2
Italian.....	265	161	60.8
German.....	228	54	23.7
Lithuanian.....	225	99	44.0
All other.....	869	216	24.9
Negro.....	232	39	16.8
Not reported.....	6		

<sup>1</sup> Includes 12 children who had no breakfast.

*Income and inadequate breakfasts.*—In common with nearly all the undesirable conditions already discussed, inadequate breakfasts were distinctly more prevalent in the lowest income groups. Table 41 shows that the percentage of children who did not have breakfasts that were at all satisfactory decreased from 44.5 per cent in the families with incomes of less than \$850 to but 13.8 per cent in the \$2,250 earnings group. But again the fact that so considerable a proportion as 18.8 per cent and 13.8 per cent, respectively, of the children in the two highest income groups did not have adequate breakfasts indicates that some cause other than poverty contributed to the result.

TABLE 41.—*Inadequate breakfast, by earnings of chief breadwinner.*

Earnings of chief breadwinner.	Children 2 to 7 years of age.		
	Total.	Who had very inadequate breakfasts	
		Number.	Per cent.
Total.....	6,015	1 1,960	32.6
Under \$850.....	851	379	44.5
\$850 to \$1,049.....	923	395	42.8
\$1,050 to \$1,249.....	1,065	388	36.4
\$1,250 to \$1,449.....	843	255	30.2
\$1,450 to \$1,849.....	1,041	266	25.6
\$1,850 to \$2,249.....	378	71	18.8
\$2,250 and over.....	441	61	13.8
No chief breadwinner and no earnings.....	129	47	36.4
Not reported.....	344	98	28.5

<sup>1</sup> Includes 12 children who had no breakfast

### Inadequate lunches.

Totally insufficient lunches were likewise common among the children studied. As in the case of breakfasts, only the extremely poor lunches were considered "inadequate," in making the tabulations, and the term therefore refers only to such lunches as the following: "One slice bread and coffee"; "cakes, coffee"; "bread and lard, 1 cup coffee"; "2 slices bread and butter, coffee"; "1 plate beef soup"; "2 cobs corn, 1 slice bread and butter"; or "2 slices bread and margarine, 1 dill pickle." Of the children studied, 16.9 per cent had either no lunch at all or one of this inadequate type. Furthermore, 493 children, or 8.2 per cent of the entire group, had neither lunches nor breakfasts of any better type. (Tables 42 and 43.)

The children of native white mothers fared somewhat better than the average, only 6.9 per cent having no lunches, or lunches of this extremely inadequate type, and but 2.3 per cent having neither lunches nor breakfasts of a better type; while the children of foreign-born parentage, of whom 20.2 per cent had inadequate lunches or none and 11 per cent had neither breakfasts nor lunches above the inadequate grade, fared distinctly worse than the average. The children of Polish mothers made the poorest showing; 28.1 per cent of them did not have adequate lunches and 17.2 per cent had neither lunches nor breakfasts that were satisfactory.

TABLE 42.—*Inadequate lunch, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.		
	Total.	Who had very inadequate lunches.	
		Number.	Per cent.
Total.....	6,015	<sup>1</sup> 1,016	16.9
White.....	5,777	921	15.9
Native.....	1,843	127	6.9
Foreign-born.....	3,934	794	20.2
Polish.....	923	259	28.1
Serbo-Croatian.....	587	120	20.4
Slovak.....	546	148	27.1
Magyar.....	291	53	18.2
Italian.....	265	31	11.7
German.....	228	23	10.1
Lithuanian.....	225	44	19.6
All other.....	869	116	13.3
Negro.....	232	95	40.9
Not reported.....	6	.....	.....

<sup>1</sup> Includes 88 children who had no lunch.

A combination of inadequate breakfasts and lunches is especially detrimental, for it means that a child must go from supper one night till supper the night following without any real meal. That 8.2 per cent of all the children, 11 per cent of the foreign-born, and 17.2

per cent of the Polish children, were thus receiving but one real meal a day is indeed significant.

TABLE 43.—*Inadequacy of both breakfast and lunch, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.		
	Total.	Both breakfast and lunch inadequate.	
		Number.	Percent.
Total.....	6,015	493	8.2
White.....	5,777	476	8.2
Native.....	1,843	42	2.3
Foreign-born.....	3,934	434	11.0
Polish.....	923	159	17.2
Serbo-Croatian.....	587	77	13.1
Slovak.....	546	83	15.2
Magyar.....	291	26	8.9
Italian.....	265	24	9.1
German.....	228	6	2.6
Lithuanian.....	225	13	5.8
All other.....	869	46	5.3
Negro.....	232	17	7.3
Not reported.....	6		

### Summary of customs regarding dietary practices.

The findings regarding certain dietary practices which have just been individually considered may be summarized briefly. In the following statement, the condition to be desired is compared with the findings relative to it among the children studied:

It is a matter of common agreement among specialists that it is best for young children—

(1) To be given simple, easily digested foods suited to their digestive tract.

Only 3.4 per cent of the children, and practically none in the foreign groups, had such meals.

(2) To have as the evening meal, in particular, a light and easily digested one.

Only 22.8 per cent of the children at the most could be said to have had such evening meals, and 60.8 per cent had evening meals of the exactly opposite type.

(3) To have all meals at moderately regular hours.

Less than half (47 per cent) had such regular meals.

(4) To have as many meals as needed but no food between meals.

Only 18 per cent had no food between meals, and 31.2 per cent were quite evidently indulging in "piecing" to a harmful extent.

(5) To have a good breakfast to start the day.

At least one-third had totally inadequate breakfasts, or none.

(6) To have a good lunch at noon.

Sixteen and nine-tenths per cent had distinctly poor lunches or none, and 8.2 per cent had neither adequate lunches nor adequate breakfasts.

These averages, moreover, are for the total group, and the distinctly poorer records of many groups are obscured thereby.

It is obvious that these factors are not all of equal importance. Indeed it is often difficult to convince mothers that they are important at all, since a child may live and apparently thrive in total disregard of all such considerations. Irritability, peevishness, disturbed sleep, digestive difficulties, and the lack of appetite at meal times are results which commonly accompany violations of one or more of these rules; but these are rarely attributed to their real cause. The effects, moreover, are not always immediately visible, but may show cumulatively later on in a poorly nourished body, or a weakened digestive tract. Certain it is, at any rate, that the ideal conditions described above can not be continually disregarded without risk to the present and future well-being of the child.

## DIETARY FINDINGS CONSIDERED IN RELATION TO PHYSICAL CONDITION.

Slightly over half (52 per cent) of the 6,015 preschool children for whom schedules were obtained were given physical examinations. The physical findings are presented fully in a special report.<sup>3</sup> Certain data revealed in these examinations, however, are significant in connection with the dietary findings, and will therefore be discussed briefly in this section. Special relationships which have been deemed worthy of comment are: Diet and dental caries; diet and anemia; diet and postural defect; diet and defective tonsils; and diet and the total number of defects.

In studying these relationships it has been borne in mind that a child's state of nutrition is the result not of his diet at the time, but rather of that which he has had through all his previous years. It is doubtless true, however, that the present diet is more or less indicative of the type which he has formerly received. An exception is found in the case of children who have been breast fed in infancy and have later dropped to an unsatisfactory diet.

### State of nutrition as indicated by weight according to height.

The grades of diet are compared in Table 44 with two main groups which are defined in terms of weight according to height. The first group comprises all children of average weight or above, and is subdivided into those whose condition of nutrition was adjudged excellent by the physician who made the physical examination, and the others; the second, which comprises children below average weight for height, is subdivided into those less than 7 per cent below, those between 7 and 10 per cent below, and those 10 per cent or more below average weight for height. For this comparison the diet grades are combined into three groups.

If, as is frequently assumed, weight is an accurate index of nutrition, a close relation might be expected to appear between the weight for height groups and the grade of diet. However, the distribution of the children in these weight groups, as shown by Table 44, seems to bear little relation to their classification according to diet. A slightly larger proportion of children having A and B diets (20.2 per cent) were placed in the group with excellent nutrition than of the children having D and E diets (18.3 per cent).

<sup>3</sup> Rude, Anna E., M. D.: *Physical Status of Preschool Children*, Gary, Ind., pp. 27-62. U. S. Children's Bureau Publication No. 111. Washington, 1922.

TABLE 44.—*Relation of weight to height, by grade of diet.*

Relation of weight to height. <sup>1</sup>	Children 2 to 7 years of age given physical examination.								
	Total.		Grade of diet.						Not graded.
			A and B		C		D and E		
	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	
Total.....	3, 125	100. 0	332	100. 0	885	100. 0	1, 555	100. 0	353
Average and above.....	1, 319	42. 2	135	40. 7	380	42. 9	676	43. 5	128
Excellent nutrition <sup>2</sup> .....	580	18. 6	67	20. 2	174	19. 7	284	18. 3	55
Other.....	739	23. 6	68	20. 5	206	23. 3	392	25. 2	73
Below average.....	1, 806	57. 8	197	59. 3	505	57. 1	879	56. 5	225
Less than 7 per cent.....	1, 180	37. 8	128	38. 6	337	38. 1	598	38. 5	117
7, but less than 10 per cent	323	10. 3	38	11. 4	83	9. 4	151	9. 7	51
10 per cent and over.....	303	9. 7	31	9. 3	85	9. 6	130	8. 4	57

<sup>1</sup> The height and weight table used as standard was that prepared by the Children's Bureau for the weighing and measuring test during the Children's Year campaign, the averages for children aged 6 to 48 months having been taken from the anthropometric table compiled by F. S. Crum and those for children aged 5 to 7 years, inclusive, from Bowditch.

<sup>2</sup> Excellent as judged by the examining physician.

The fact that many of the children on good diets failed to qualify as of excellent nutrition may be explained by the following points: (1) The diets were only qualitatively graded and the amount of food may easily have been under the child's requirement; (2) the factor of suitability and digestibility of foods was largely disregarded in diets graded B, and these diets may easily have failed to nourish the children even though apparently containing all the requisite food elements; and (3) a diet satisfactory in every way may fail to produce a well-nourished individual if toxins from tonsils or other sources, or other physical defects, are present to interfere.

The fact that the groups with diets lacking in one or more of the food essentials—the D and E diets—had nearly the same proportion of children of excellent nutrition as the group with the best diets and no greater a proportion of underweights than that group is more difficult to explain. Three queries in respect to this situation immediately arise: Are the diets typical? Does the diet really matter? Or is the weight to height ratio alone not a sufficient criterion of the condition of nutrition?

The precautions taken to eliminate nontypical diets have already been mentioned. Attention has further been called to the fact that the diets of the day preceding the visit of the agent had a significant relation to nutrition only as they were typical of the diets which the child had been receiving; and to the fact that the influence of good feeding during infancy continues to be seen in the child's condition, especially in the years immediately following that period. Furthermore, variation in the grade of a child's diet from day to day, while tending to lessen any correlation of poor diets with poor nutrition



and other physical conditions, would not entirely eliminate it unless so marked as to make the classification of the diet merely a matter of chance as to the particular day chosen. And as will be seen later, marked correlations with other items of physical condition than weight point to a definite relationship existing between the diet of the day taken in this study and the child's habitual diet.

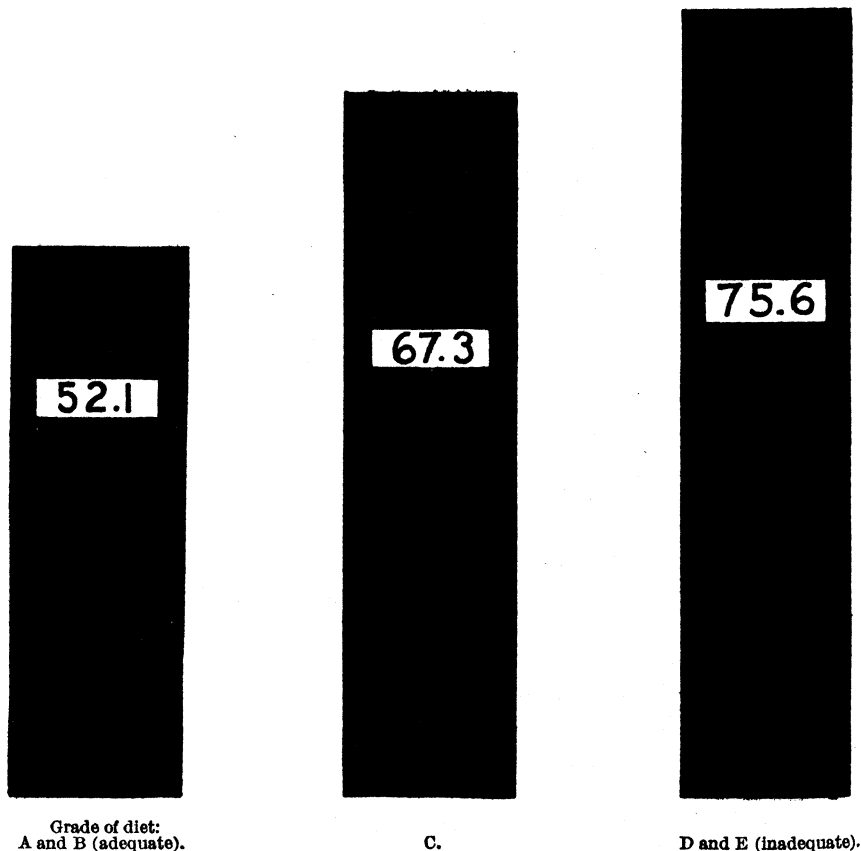
In considering the second query, with reference to the importance of the diets in relation to nutrition, it should be remembered at the outset that the diet grades A and B were based on the apparent ability of diets to provide all the elements essential to good nutrition—calcium for bones and teeth, iron for tissues and the red blood cells, vitamins for the maintenance of health and the prevention of deficiency diseases, as well as proteins capable of supporting normal growth and a sufficient quantity of food to supply the needed energy. It is well known that a shortage of these essentials other than the energy-producing elements does not always show itself immediately in the weight. The body can take calcium from bones and teeth to supply its more vital needs and can lose iron from the red corpuscles, for a considerable time before loss in weight results. Vitamins, moreover, may apparently be stored to some extent in the tissues, and drawn from this source in times of under-supply, making it appear for the time being that the body can thrive without them. Change in the state of nutrition, in other words, lags considerably behind change in the diet. That a certain diet has not yet caused underweight, therefore, does not prove that the diet is satisfactory. This is especially true of the preschool period, particularly the first year or two, since the effects of good infant feeding seem to persist for some time in spite of an extremely undesirable subsequent diet.

A surprising lack of underweight in children living on an almost exclusive bread-and-coffee diet has been noted again and again in preschool clinics. Such children are pale, fat, flabby, and lifeless, with scarcely one characteristic of a normal child excepting weight. One worker has characterized them as "lifeless lumps of lead who stay wherever they are put." And yet if weight alone is a standard of nutrition they must be regarded as in "good" condition.

In view of these facts it can scarcely be considered proved that the diet standards were too high or that diet does not matter, even though children whose dietaries included no apparent source of calcium or vitamins, and insufficient proteins, were found to be of normal weight. Such a diet, if continued many months, can not fail to work havoc in some way, whether or not it causes underweight. It would seem, however, that data as to the discrepancy between diets and weights such as those given in Table 44, secured for more than 3,000 children, would indicate the wisdom of con-

sidering other factors than weight for height in estimating the state of nutrition. It is generally admitted that underweight children are as a rule undernourished; but, unquestionably, many children of average weight and above are also malnourished. Would not an examination of the child's diet be the best method of detecting faulty nutrition in its incipency?

CHART VIII.—Per cent of children 2 to 7 years of age with carious teeth, by grade of diet.



### Carious teeth.

A conspicuous example of the relation between diet and physical condition is shown by Chart VIII, which pictures the relation between the type of diet and the presence of dental caries. Even though neglect to clean the teeth, and other factors which might contribute to decay, were doubtless coexistent with faulty diets, the absence of bone-forming elements in the diets was doubtless an important cause of this condition. Only 52.1 per cent of the children in the highest diet group as compared with 75.6 per cent, or nearly one and one-half times as many, of those in the lowest diet group had decayed teeth. (Table 45.)

Age of child.	Grade of diet.													
	Having carious teeth.			A and B.			C.			D and E.			Not graded.	
	Total.	Number.	Per cent.	Total.	Having carious teeth.		Total.	Total.	Having carious teeth.		Total.	Total.	Having carious teeth.	
					Number.	Per cent. <sup>1</sup>			Number.	Per cent.			Number.	Per cent.
3, 125	2, 021	64. 7	332	173	52. 1	885	596	67. 3	1, 555	1, 175	75. 6	353	77	21. 8
Total.....	511	108	21. 1	39	7	69	14	20. 3	76	30	39. 5	327	57	17. 4
2 years, under 3.....	496	218	44. 0	76	23	182	81	44. 5	234	113	48. 3	4	1	.....
3 years, under 4.....	549	364	66. 3	66	34	192	129	67. 2	288	199	69. 1	3	2	.....
4 years, under 5.....	667	533	79. 9	65	39	184	149	81. 0	412	340	82. 5	6	5	.....
5 years, under 6.....	682	598	87. 7	69	55	197	168	85. 3	408	368	90. 2	8	7	.....
6 years, under 7.....	220	200	90. 9	17	15	61	55	90. 2	137	125	91. 2	5	5	.....
7 years, under 8.....														

<sup>1</sup> Not shown where base is less than 50.

One of the chief faults of these diets appears to have been lack of calcium due to the small amounts of milk used. The diet grades usually, though not invariably, represented the following amounts of milk: A,  $1\frac{1}{2}$  pints; B, 1 pint; C,  $\frac{1}{2}$  pint; D, less than  $\frac{1}{2}$  pint; E, none or practically none. In view of the importance of calcium in tooth formation the diet grades regarded as milk grades become especially significant. (Table 46.)

TABLE 46.—*Physical defects, by grade of diet.*

Grade of diet.	Children 2 to 7 years of age given physical examination.										
	Total.	Having carious teeth.		Having bony defects of rachitic origin.		Having postural defects.		Having defective tonsils.		Having anemia.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>
Total.....	3,125	2,021	64.7	467	14.9	793	25.4	1,626	52.0	243	7.8
A and B.....	332	173	52.1	39	11.7	78	23.5	153	46.1	17	5.1
A.....	19	2	.....	1	.....	3	.....	7	.....	.....	.....
B.....	313	171	54.6	38	12.1	75	24.0	146	46.6	17	5.4
C.....	885	596	67.3	106	12.0	220	24.9	489	55.3	66	7.5
D and E.....	1,555	1,175	75.6	279	17.9	452	29.1	850	54.7	151	9.7
D.....	1,512	1,141	75.5	272	18.0	435	28.8	824	54.5	147	9.7
E.....	43	34	.....	7	.....	17	.....	26	.....	4	.....
Not graded.....	353	77	21.8	43	12.2	43	12.2	134	38.0	9	2.5

<sup>1</sup>Not shown where base is less than 100.

### Bony defects of rachitic origin.

Defects of rachitic origin are intimately connected with deficiency in diet and under a proper dietary régime tend to disappear. The relationship between the grade of diet and bony defects of rachitic origin is definitely indicated by Table 46. Of the children with A and B diets, 11.7 per cent had bony defects of rachitic origin as compared with 18 per cent of those with D and E diets. Particularly with reference to the defects here considered, a fact already pointed out<sup>4</sup> must be borne in mind; namely, that a child's nutrition is the product not of his present diet but of that which he has had through all his previous years.

### Postural defects.

"Winged shoulders" and other postural defects are common accompaniments of the low muscular tone resulting from poor nutrition. In children of the preschool age, especially during the earlier years, such conditions usually have not become manifest to the same extent as in older children. In the group studied, nevertheless, more than a fourth (25.4 per cent) were found already to have such postural defects. The tendency toward these defects increased with the defectiveness

<sup>4</sup> See p. 101.

of the diet; 29.1 per cent of the children with D and E diets were found to have defects of posture, as compared with 23.5 per cent of those with A and B diets.

### **Defective tonsils.**

It is a matter of general knowledge that enlarged or diseased tonsils, or adenoids—with which they are frequently associated—may markedly affect the physical condition of the child—the enlarged tonsils by obstructing the breathing and the diseased ones by the depressing effect of their toxins. That there may be another relation between abnormal tonsils and poor nutrition, with malnutrition as the cause and abnormal tonsils as the result, has more than once been suggested by pediatricists. In connection with this point it is interesting to note that of the children with A and B diets 46.1 per cent had defective tonsils, as compared with 54.7 per cent of the children with D and E diets. (Table 47.)

That the percentage of defective tonsils is noticeably smaller among the children with A and B diets does not, it is true, necessarily signify a cause and effect relationship, for unfavorable conditions other than deficient diets might also be present. Moreover, the prevalence of abnormal conditions of the tonsils is shown in Table 47 to increase with age, such conditions appearing in 2 per cent of the group under 3 years of age, and 53.5 per cent of the 6- to 7-year age group. Since such a relationship has already been suggested by specialists, however, the data here presented at least offer an argument for further investigation of this point.

TABLE 47.—Prevalence of defective tonsils, by grade of diet and age of child.

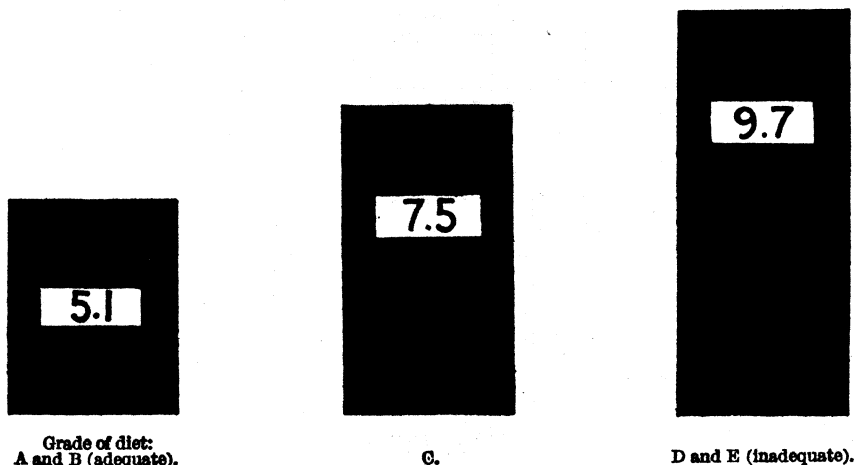
Children 2 to 7 years of age given physical examination.														
Grade of diet.														
Age of child.	Total.	Having defective tonsils.		A and B.		C.		D and E.		Not graded.				
				Having defective tonsils.		Having defective tonsils.		Having defective tonsils.		Total.	Having defective tonsils.			
				Total.	Number.	Per cent. <sup>1</sup>	Total.	Number.	Per cent.		Total.	Number.	Per cent. <sup>1</sup>	
Total.....	3, 125	1, 626	52.0	332	153	46.1	885	489	55.3	850	54.7	353	134	38.0
2 years, under 3.....	511	203	39.7	39	15	.....	69	27	39.1	38	50.0	327	123	37.6
3 years, under 4.....	496	254	51.2	76	35	46.1	182	96	52.7	120	51.3	4	3	.....
4 years, under 5.....	549	319	58.1	66	33	50.0	192	110	57.3	258	60.1	3	3	.....
5 years, under 6.....	667	377	56.5	65	31	47.7	184	103	56.0	412	58.7	6	1	.....
6 years, under 7.....	682	365	53.5	69	31	44.9	197	120	60.9	408	51.5	8	4	.....
7 years, under 8.....	220	108	49.1	17	8	.....	61	33	54.1	137	48.9	5	.....	.....

<sup>1</sup> Not shown where base is less than 50.

**Anemia.**

The method of determining anemia—by the inspection of the mucous membranes for pallor—is only a rough one, and the cases singled out in this way are those in which the hemoglobin is considerably reduced. Even so, it was found that 7.8 per cent of the children who received physical examination were anemic. (Table 48, Chart IX.)

CHART IX.—Per cent of children 2 to 7 years of age anemic, by grade of diet.



Although other factors than diet, such as toxins from tonsils, adenoids, and diseased teeth, are more commonly responsible for anemia than is diet, a diet which does not provide sufficient quantities of iron and other constituents of the red corpuscles is quite capable of producing a secondary anemia. It is therefore of interest to note the incidence of anemia in the different diet groups. In this connection it must be remembered that according to the findings of the physical examinations the percentage of anemic children increased with age, rising to 16.7 per cent in the seventh year.

As is shown in Chart IX, only 5.1 per cent in the highest diet group were anemic, whereas in the lower grades the proportion increased steadily until in the poorest group 9.7 per cent of the children were so classed.

TABLE 48.—Prevalence of anemia, by grade of diet and age of child.

Children 2 to 7 years of age given physical examination.																					
Age of child.		Grade of diet.																			
		Total.		Anemic.		A and B				C				D and E				Total.		Anemic.	
						Total.		Anemic.		Total.		Anemic.		Total.		Anemic.					
		Number.	Per cent.		Number.	Per cent.		Number.	Per cent.		Number.	Per cent.		Number.	Per cent.		Number.	Per cent.			
Total.....		3,125	243	7.8		332	17	5.1	885	66	7.5	1,554	141	9.7	353	9	2.5				
2 years, under 3.....		511	5	1.0		39			69			76	1	1.3	327	4	1.2				
3 years, under 4.....		466	3	.6		76			132			234	3	1.3	4						
4 years, under 5.....		549	21	3.8		66	1	1.5	192	5	2.6	293	15	5.2	3						
5 years, under 6.....		667	67	10.0		65	2	3.1	184	25	13.6	413	40	9.7	6						
6 years, under 7.....		682	114	16.7		69	11	15.9	197	30	15.2	498	71	17.4	8						
7 years, under 8.....		220	33	15.0		17	3	.....	61	6	9.8	137	31	15.3	5	3	.....				

† Not shown where base is less than 50.



### Number of defects.

One method of comparing the physical condition of a group of children is by the total number of defects which they are individually found to have. Underweight counts as one defect, carious teeth another; and anemia, bad tonsils, a defective heart, and other abnormal conditions are each in turn regarded as one defect. Findings in respect to these defects and their significance are presented in detail in another of the reports on the investigation in Gary.<sup>5</sup> In Table 49 the proportion of children on good diets who were free from defects is compared with that among children who were less satisfactorily fed.

TABLE 49.—*Number of defects, by grade of diet.*

Number of defects.	Children 2 to 7 years of age given physical examination.										
	Total.		With specified grade of diet.								Not grad- ed.
	Num- ber.	Per cent distrib- ution.	A <sup>1</sup>	B		C		D		E <sup>1</sup>	
				Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.		
Total.....	3,125	100.0	19	313	100.0	885	100.0	1,512	100.0	43	353
With defects.....	2,976	95.2	14	287	91.7	846	95.6	1,481	97.9	41	307
Less than 5.....	1,789	57.2	12	182	58.1	503	56.8	818	54.1	17	257
1.....	332	10.6	1	49	15.7	83	9.4	108	7.1	2	89
2.....	440	14.1	4	38	12.1	128	14.5	188	12.4	3	79
3.....	537	17.2	5	66	21.1	150	16.9	259	17.1	5	52
4.....	480	15.4	2	29	9.3	142	16.0	263	17.4	7	37
5 to 9.....	1,123	35.9	2	102	32.6	324	36.6	622	41.1	23	50
5.....	426	13.6	1	37	11.8	127	14.4	229	15.1	6	26
6.....	316	10.1	1	36	11.5	86	9.7	174	11.5	6	13
7.....	196	6.3	.....	14	4.5	65	7.3	108	7.1	5	4
8.....	123	3.9	.....	9	2.9	25	2.8	80	5.3	5	4
9.....	62	2.0	.....	6	1.9	21	2.4	31	2.1	1	3
10 to 15.....	64	2.0	.....	3	1.0	19	2.1	41	2.7	1	.....
10.....	30	1.0	.....	.....	.....	10	1.1	19	1.3	1	.....
11.....	21	.7	.....	2	.6	7	.8	12	.8	.....	.....
12.....	8	.3	.....	.....	.....	2	.2	6	.4	.....	.....
13.....	3	.1	.....	1	.3	.....	.....	2	.1	.....	.....
14.....	1	( <sup>2</sup> )	.....	.....	.....	.....	.....	1	.1	.....	.....
15.....	1	( <sup>2</sup> )	.....	.....	.....	.....	.....	1	.1	.....	.....
Without defects.....	149	4.8	5	26	8.3	39	4.4	31	2.1	2	46

<sup>1</sup> Per cent distribution not shown where base is less than 100.

<sup>2</sup> Less than one-tenth of 1 per cent.

Only 4.8 per cent of the whole group of children examined had no defects at all, while 57.2 per cent had less than 5, 35.9 per cent had from 5 to 9, and 2 per cent had 10 or more defects. In comparison with these average figures the proportions among children on A and B diets were fairly creditable, the percentage free from defects being 9.3—almost twice the average—while 67.8 per cent were found to

<sup>5</sup> Rude, Anna E., M. D.: *Physical Status of Preschool Children, Gary, Ind.* U. S. Children's Bureau Publication No. 111.

have less than 5. Compared with other diet groups also the children having A and B diets made a distinctly better showing:

	Per cent free from defects.	Per cent with less than 5 defects.
A and B diets.....	9.3	67.8
C diets.....	4.4	61.2
D and E diets.....	2.1	55.8

Over 4 times as high a percentage of the children in the A and B diet group were free from defects as of those in the D and E groups.

The average number of defects, as derived from Table 49, increased from 2.3 for children with A diets, to 3.5 for children with B diets, 4—the same as the average for the entire group—for those with C, 4.4 for those with D, and 4.9 for those with E diets.

### Summary of relationship between diet and physical condition.

In interpreting these relationships, it must be borne in mind that the information regarding diet refers to the diets the children were receiving at the time of the study—doubtless more or less typical of their customary diets; and that parallelism does not necessarily prove a cause and effect relationship. So many interdependent factors—numbers of which are not investigated at all—are involved in studies like the present one that caution must be used in explaining such relationships. In this exposition, therefore, it has not been intended to give the impression that diet is the only factor—or in some cases that it is necessarily a factor at all—in the causation of the physical defects discussed. In accordance with the recognized fact that an adequate diet is essential for the nutrition of the body—bones, teeth, blood, muscles, and its every component part—and that good nutrition is an important factor in the prevention of various kinds of bodily defects and disease, this study, involving thousands of cases, has shown that the carefully and adequately fed children were really in the best condition—though other factors than diet may have had a share in making them so.

## SUMMARY AND CONCLUSIONS OF DIETARY STUDY.

The diets of 6,015 children of Gary, Ind., between the ages of 2 and 7, inclusive, were studied by the schedule method. These diets were classified into five groups—A, B, C, D, and E—according to their adequacy and suitability for children of these years. A and B diets are those apparently capable of covering the child's actual requirements; A being both adequate and suitable and B adequate, but with one or more flaws in respect to suitability; C is a diet the adequacy of which is questionable; D diets lack one or more of the essentials of nutrition; and E is an almost totally deficient diet. The diet records were likewise examined for the presence or absence of certain foods commonly depended on for a child's diet—milk, eggs, cereals, vegetables, fruits, potatoes—and for the use of coffee. The practices concerning certain customs of eating—regularity of meals, suitability of foods, type of evening meal, "piecing," and adequacy of breakfasts and lunches were also considered. In all instances the relation of the different items to age, nationality, income, and other significant factors was examined. Finally, the relation of certain physical conditions to the grades of diet was studied. The outstanding findings in respect to these different items may be summarized as follows:

### Adequacy of diets.

Judged by accepted standards as to what constitutes a diet capable of promoting normal growth and development in children, the large majority of the children studied were not being adequately fed. Less than 10 per cent of the entire group had diets on the day before the agent's visit which appeared adequate (A and B), and only 25 of this group had diets both adequate and suitable. In fact, nearly two-thirds of the total number of children and three-fourths of the children of all nationality groups, save native whites, Germans, and Lithuanians, had diets which were almost certainly lacking in one or more of the essentials.

### Milk.

One of the chief factors responsible for so large a percentage of inadequate diets was the scanty use of milk, without which the requirements of the body—for calcium in particular—can not be met. Only 18.9 per cent of all the children were getting the pint which is almost universally recognized as the minimum necessary, and 57.2

per cent had no milk at all to drink. In several nationality groups, indeed, three-fourths of the children had no milk to drink; and 970 children of all groups had no milk at all either in food or as a beverage.

### Coffee.<sup>6</sup>

A second factor contributing to the inadequate character of the diets was the prevalence of the coffee habit among these children. Two-thirds of the entire group were found to drink coffee habitually, and 40 per cent to have it more than once a day. Not only so, but in certain of the groups of foreign-born parentage, coffee was drunk by more than 90 per cent of the children, and three-fourths of the Polish group had it two or more times daily.

Coffee drinking, moreover, appears to have been inversely proportional to the use of milk. Not only do the schedules show about the same percentage of children drinking coffee as of those lacking milk, but a comparison of coffee drinking by milk groups shows the use of coffee to increase markedly as the amount of milk decreases. To leave out milk and substitute coffee plays havoc with any diet, whatever may be its redeeming features.

### Other foods.

Milk is not the only desirable food which was little used, since vegetables, fruits, cereals, and eggs were likewise conspicuously lacking. More than half of all the diets lacked each of these important foods, 60.1 per cent being without fruits, 59.5 per cent without eggs, 76.6 per cent without cereals, and 50.4 per cent without vegetables other than potatoes. Potatoes and meat were present in higher percentages of the diets than any other foods, about two-thirds of the total number containing each of these articles of diet. The extensive use of potatoes is one of the most commendable features observed. The extensive use of meat is rather to be regretted, in view of the low incomes of many of the families reached by the study and the absence of more important foods from most of the diets, since when meat is not used the tendency is toward a greater use of more essential foods.

### Items lacking.

The extreme poverty of the diets is further shown by the fact that nearly half (45.5 per cent) of them lacked as many as four of the foods usually included in a child's diet to insure that his requirements are met and to provide sufficient variety—milk, eggs, vegetables, potatoes, fruit, cereal, and meat. In five of the nine nationality groups, moreover, about two-thirds of the children were without four or more of these foods—69 per cent of the children of colored mothers lacking this number.

---

<sup>6</sup> "Coffee," throughout this discussion, indicates both coffee and tea.

### **Technique of feeding.**

Not only were a high percentage of the diets studied of doubtful adequacy, but they were likewise faulty in respect to practices which may be included under the term technique of feeding. Only 3.4 per cent of all the children, and practically none of the children of foreign-born mothers, had meals which were suitable to children of their age, and 18.3 per cent of all had meals which were extremely unsuitable in character. The evening meal of 61 per cent of the children was a "heavy" one; less than half of the entire group (47 per cent) had meals at regular hours; and eating between meals was almost a universal practice, only 18 per cent of all the children—and in most of the foreign groups less than this percentage—being free from the habit.

One-third of all the children and almost two-thirds of the children of Italian mothers had breakfasts of an extremely inadequate type such as "one cup of coffee," or "bread and coffee," or "cakes," or no breakfasts. Lunches of a similar type, or no lunches, were reported for 16.9 per cent of all the children, 28.1 per cent of the children of Polish mothers, and 40.9 per cent of the children of Negro mothers. Furthermore, 8.2 per cent of all the children, 11 per cent of those of foreign-born mothers, and 17.2 per cent of those of Polish mothers, had neither breakfasts nor lunches that could be considered at all adequate.

### **Diet and physical condition.**

The percentage of children with no defects was over four times as high in the A and B as in the D and E diet groups. The average number of defects per child increased from 2.3 among children with A diets to 4.9 among those with E diets. The proportion having certain defects closely related to nutrition increased from 5.1 per cent in the A and B grades to 9.7 per cent in the D and E grades in the case of anemia; from 46.1 per cent in the A and B grades to 56.2 per cent in the D and E grades in the case of defective tonsils; from 23.5 per cent to 29.1 per cent for postural defects; from 11.7 per cent to 17.9 per cent for bony defects of rachitic origin; and from 52.1 per cent to 75.6 per cent in the case of carious teeth. On the other hand, little correlation was found between weight for height and grade of diet.

Although children living on diets lacking in elements known to be essential to their normal development appeared to thrive when judged solely by the standard of weight for height, it does not seem safe to conclude that these diets are therefore satisfactory; for the effects of a faulty diet may not be immediately apparent, and may not be reflected in the weight. At any rate the best-fed children in this study were the best ones physically, measured by standards other than weight, and this relationship was most strikingly true in

respect to teeth. It seems to be an argument for considering other factors than weight alone in judging the nutrition of a child.

It is difficult to determine to what extent these better physical conditions in the better diet grades are due to diet, for it is recognized that other factors doubtless play a part in producing them. But since the most notable deficiency appeared to be the lack of calcium, traceable to the small amounts or total absence of milk, it seems reasonable to conclude that the differences in the proportion of children with defects in the good and the poor diet groups is due in part at least to dietary deficiencies.

### Nationality.

The relation of nationality to the items of diet which have been severally discussed is one of the most significant observations of this report and may profitably be summarized here. In order to make comparisons among the different nationalities easily possible, Table 50, showing the ranking of the nationalities in respect to these items, has been compiled. In the case of meat, eggs, milk, cereal, fruit, vegetables, and potatoes, and in the grade of diet, the rank is in order of decreasing use of the foods and decreasing adequacy of diets; in the case of coffee, in order of increasing use. For the other features—eating between meals, inadequacy of breakfasts and of lunches, regularity of meals, and lack of four or more specified articles of food—rank is in the order of the more favorable. Statements showing the percentages of children in each nationality group (1) whose chief breadwinners were earning less than \$1,250, (2) whose mothers were unable to speak English, and (3) whose mothers were unable to read or write in any language, have also been included for purposes of comparison.

The children of native white mothers, it will be noted, rank first in respect to family income, and in the proportion of literate mothers. The diets of these children, likewise, are all above the average, being first in every column except those for coffee, meat, and fruits, and having a favorable position in these. Although better than the others in most respects, the record of this group is not one of which to boast. The proportion of the children included in it who lacked fruits, vegetables, milk, or eggs, and who had inadequate diets, was in each case more than half; close to two-thirds were without cereal; about the same proportion ate between meals; more than one-third were in the coffee-drinking group; and almost one-fourth lacked four or more of the specified items of diet.

TABLE 50.—*Relative rank of the different nationality groups in the proportions of children having or lacking specified items of diet or falling in certain specified classes.*

Color and nationality of mother.	Per cent of children 2 to 7 years of age having on selected day—													
	No milk as beverage.		1 pint of milk and over.		No eggs.		No potatoes.		No other vegetables.		No fruit.		No cereal.	
	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.
Total.....	...	57.2	...	18.9	...	59.5	...	36.1	...	50.4	...	60.1	...	76.6
Native white.....	1	46.9	1	27.9	1	48.1	1	16.0	5	44.2	1	43.5	1	62.0
Foreign-born white.....	...	61.6	...	14.8	...	63.8	...	44.3	...	53.7	...	67.6	...	83.0
Polish.....	6	64.5	7	12.4	9	75.4	5	43.0	8	59.2	7	70.1	5	82.8
Serbo-Croatian.....	5	59.8	4	16.7	5	63.9	9	56.0	9	61.8	10	79.7	9	90.8
Slovak.....	9	73.6	8	9.0	8	68.3	4	39.4	6	51.6	9	75.8	4	78.9
Magyar.....	8	70.8	9	8.2	4	63.2	7	52.9	1	38.8	6	67.4	7	86.3
Italian.....	10	75.1	10	6.8	7	67.9	10	60.4	2	41.5	4	60.0	8	89.4
German.....	3	51.8	2	26.3	2	48.7	2	29.4	3	42.1	2	52.2	2	76.8
Lithuanian.....	4	57.3	6	13.3	6	66.7	6	46.2	10	64.0	8	74.2	10	92.0
All other.....	2	48.8	3	22.0	3	50.5	3	36.6	7	52.8	3	56.2	3	76.9
Negro.....	7	65.5	5	15.9	10	77.2	8	56.0	4	43.5	5	66.4	6	84.5

Color and nationality of mother.	Per cent of children 2 to 7 years of age having on selected day—						
	No meat.		Meat.	Meat twice and three times.	Tea or coffee.		Tea or coffee twice and over.
	Rank.	Per cent.			Rank.	Per cent.	
Total.....	...	33.1	65.7	18.7	...	66.8	39.9
Native white.....	3	28.6	69.7	16.5	2	35.2	15.2
Foreign-born white.....	...	35.2	64.0	19.3	...	83.8	53.5
Polish.....	8	39.9	59.2	13.7	8	91.2	76.2
Serbo-Croatian.....	10	43.6	55.7	15.7	7	87.4	53.7
Slovak.....	6	33.5	66.3	20.5	10	94.3	70.3
Magyar.....	...	24.4	74.9	26.8	9	92.4	55.0
Italian.....	9	40.8	57.0	16.6	6	85.3	18.1
German.....	4	29.4	69.7	21.5	4	68.4	24.1
Lithuanian.....	1	21.3	76.9	28.9	5	84.9	57.8
All other.....	5	32.5	66.7	22.4	3	67.2	35.8
Negro.....	7	35.3	62.5	24.1	1	31.0	6.9

Color and nationality of mother.	Per cent of children 2 to 7 years of age.													
	Lacking 4 or more items in diet.		With D and E diet grades.		With A and B diet grades.		With regular meals.		Eating between meals.		With inadequate breakfast. <sup>1</sup>		With inadequate lunch. <sup>2</sup>	
	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.
Total.....	...	45.5	...	60.5	...	8.9	...	47.0	...	80.5	...	32.6	...	16.9
Native white.....	1	22.7	1	42.5	1	19.2	1	65.9	1	66.6	1	10.5	1	6.9
Foreign-born white.....	...	54.8	...	68.3	...	4.3	...	38.7	...	87.3	...	43.9	...	20.2
Polish.....	6	60.5	7	75.6	9	1.1	9	32.9	9	91.7	9	55.1	9	28.1
Serbo-Croatian.....	10	71.4	5	72.4	5	2.4	10	29.1	5	85.2	8	51.8	7	20.4
Slovak.....	5	53.8	9	76.7	6	2.2	7	34.1	8	89.2	5	43.2	8	27.1
Magyar.....	4	47.8	8	75.9	7	2.1	4	43.0	6	86.2	7	51.2	5	18.2
Italian.....	7	63.4	10	77.0	8	1.5	6	39.2	7	87.9	10	60.8	6	11.7
German.....	2	31.6	3	57.0	2	11.4	2	55.7	3	80.7	3	23.7	2	10.1
Lithuanian.....	8	65.8	4	62.7	10	.9	8	33.8	10	92.0	6	44.0	6	19.6
All other.....	3	41.2	2	51.6	3	10.8	3	49.5	4	83.3	4	24.9	4	13.3
Negro.....	9	69.0	6	72.4	4	4.3	5	39.7	2	75.4	2	16.8	10	40.9

<sup>1</sup> Includes children with no breakfast.<sup>2</sup> Includes children with no lunch.

TABLE 50.—*Relative rank of the different nationality groups in the proportions of children having or lacking specified items of diet or falling in certain specified classes—Con.*

Color and nationality of mother.	Per cent of children 2 to 7 years of age.					
	In families with earnings of chief breadwinner under \$1,250.		With mother unable to speak English.		With mother unable to read and write.	
	Rank.	Per cent.	Rank.	Per cent.	Rank.	Per cent.
Total.....		47.1		36.6		23.3
Native white.....	1	26.9	2	.2	1	.5
Foreign-born white.....		55.3		55.9		35.0
Polish.....	8	62.6	10	80.0	7	40.6
Serbo-Croatian.....	5	54.7	9	70.7	9	55.4
Slovak.....	9	64.3	6	48.7	5	23.8
Magyar.....	4	52.6	4	34.7	4	10.7
Italian.....	6	58.9	7	62.3	8	45.7
German.....	2	37.7	3	11.0	2	5.7
Lithuanian.....	7	60.0	8	65.8	10	67.1
All other.....	3	45.7	5	39.1	6	26.7
Negro.....	10	71.6	1		3	6.0

The children of German mothers rank second to those of native white mothers in respect to maternal literacy and earnings of chief breadwinner, and are, correspondingly, next to them in rank in most of the other columns. Neither the children of native white nor those of German parentage, however, rank so much better than the others as the economic status, greater percentage of literacy, and other advantages of these groups would lead one to expect.

At the other extreme of the earnings scale were the colored families. Since in the homes of 71.6 per cent the income was under \$1,250, it is not surprising to find about three-fourths of the colored children without eggs, milk, or cereals, and having inadequate diets; about two-thirds without milk or fruits; and more than two-fifths without vegetables other than potatoes. In contrast, two-thirds of this group had meat and a fourth of them had it more than once a day. In view of the low income and the absence of milk and other essential foods, this use of meat must be regarded as of doubtful advantage. The most commendable feature of the diets of these children was the fact that less than one-third of them drank coffee. This was the best coffee record among all the race and nationality groups.

The highest percentage of inadequate diets as well as of extremely inadequate breakfasts was found among the children of Italian mothers; the milk record of this nationality was also the poorest, 75.1 per cent of the children receiving none to drink and only 6.8 per cent having so much as a pint. The record of the children of this group was likewise among the poorest in reference to most other items, since approximately 85.3 per cent drank coffee, had no cereal, and ate between meals, about two-thirds were without eggs, and the same proportion lacked four or more of the specified items.



Worthy of remark in respect to the Italians is their high rank in the use of vegetables and fruits, and low rank in the use of meat. Their use of vegetables exceeded that of all nationalities save the Magyars, not even excepting the native whites, and their use of fruits that of all save the native whites and the Germans. Even so, their record is not remarkably high; for 41.5 per cent of the children had no vegetables other than potatoes, and 60 per cent, no fruits.

When it is observed that the mothers of nearly half the children of this group were illiterate, that the mothers of almost two-thirds were unable even to speak English, and that the chief breadwinners' earnings in the families in which 58.9 per cent of them lived were under \$1,250, the low rating of the children of Italian parentage is more readily understood.

In every item save cereal and potatoes the children of Polish mothers were below the average of the foreign born. Particularly to be remarked were their excessive use of coffee, 91.2 per cent drinking it and 76.2 per cent having it two or more times a day; their high percentages of inadequate breakfasts (55.1 per cent) and lunches (28.1 per cent); their almost universal custom of "piecing" (91.7 per cent); their meager use of milk (64.5 per cent having none), fruits (70.1 per cent having none), eggs (75.4 per cent having none), and vegetables (59.2 per cent having none other than potatoes); and their general use of meat (only 39.9 per cent having none). The diet of bread, coffee, and meat commonly credited to this nationality seems to have been generally characteristic of this group. That 62.6 per cent of these children were in income groups under \$1,250, and that the mothers of 40.6 per cent were illiterate and those of 80 per cent unable to speak English, are facts worthy of consideration in connection with these deficiencies of diet.

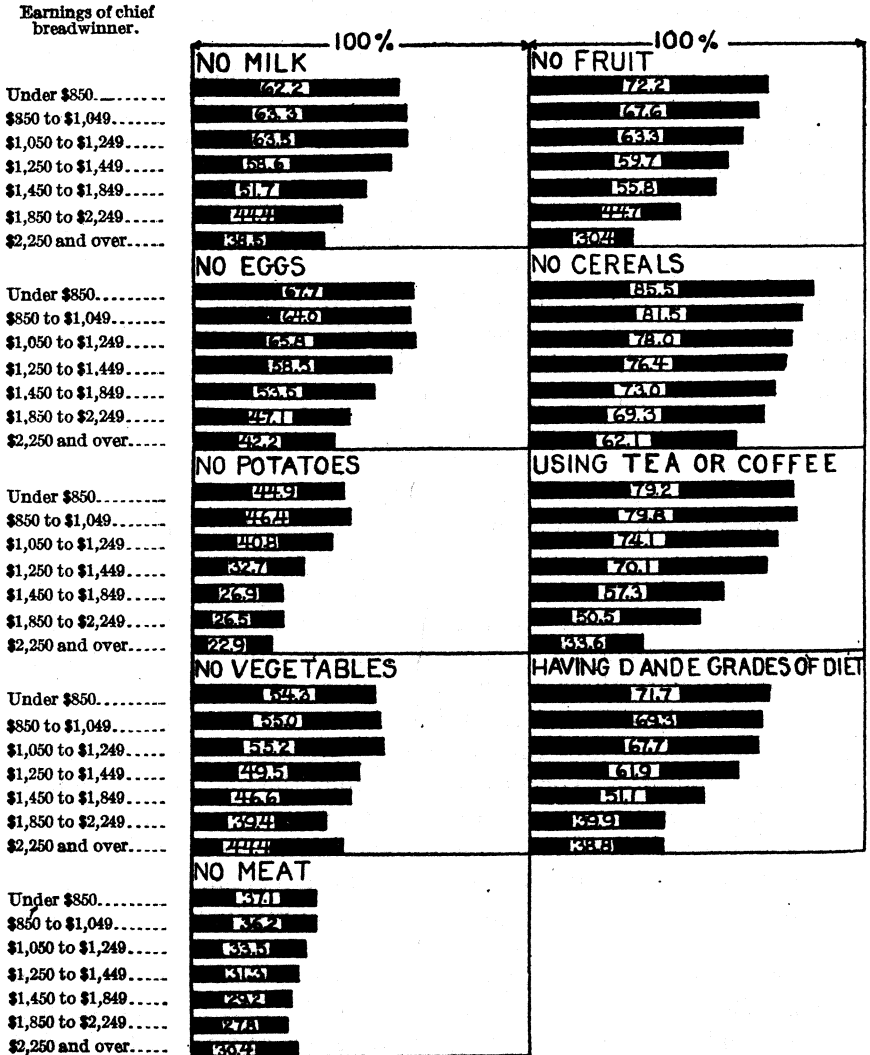
Not strikingly different from the Polish group were the Serbo-Croatians, Slovaks, and Lithuanians; in the large majority of the items these four groups occupy places among the four or five poorest. The Lithuanians rank poorest for eating between meals, use of vegetables and cereal, and literacy, and rank first in the meat list; while the Serbo-Croatians rank lowest in the meat column, as well as in the columns for fruits and regular meals, and are high in no respect.

The Magyar group, on the other hand, was noticeably better than the Polish, their record being more comparable with that of the Germans. This is not surprising in view of the fact that in income, literacy, and ability to speak English, their record was not far behind that of this nationality. Worthy of mention is the fact that the greatest percentage of children eating vegetables was found among the Magyar group.

**Income.**

It is a popular assumption that the explanation for inadequacy of children's diets must be looked for largely if not solely in the economic status of their parents. That the earnings of the family breadwinner had some share in determining the type of diet of a child in the present

CHART X.—Use of certain items of diet in relation to earnings of chief breadwinner; children 2 to 7 years of age.



study has already been suggested. Chart X, which summarizes in graphic form the relationship of income to each of the most important dietary factors with which this report is concerned, indicates the closeness of the relationship.

In the groups with earnings less than \$1,250 there appears to have been little variation as to the use of the different foods or as to the grade of diet, though the use of fruit shows some increase with better earnings even here. After the income reaches \$1,250, however, there is a steady though gradual increase in the consumption of all foods and in the diet grade, and a corresponding decrease in coffee drinking and in the percentage of diets lacking four or more items. Of the desirable foods, fruit shows the most rapid increase in use, the percentage of children having it being doubled in the range of income from \$1,250 to \$2,250. Meat, on the other hand, shows the least change, there being less than 7 per cent difference between the two extremes of income; and vegetables and cereals also vary but slightly within this range. The study shows that meat and vegetables vary comparatively little with any factors, about two-thirds of all children having meat, and less than 50 per cent eating vegetables.

Although better diet conditions are to a considerable degree coincident with higher earnings, it is apparent from Chart X that factors other than poverty must also play a part in keeping the diets on the low plane which they largely occupy. Were income alone responsible, surely there would not be among the children in the highest income group 62.1 per cent without cereals, 44.4 per cent without vegetables, 42.2 per cent without eggs, 38.5 per cent without milk, 30.4 per cent without fruit, 22.9 per cent without potatoes, and 33.6 per cent drinking coffee. Racial dietary prejudices may in part account for the failure to use cereals and potatoes, but they do not explain the prevalence of coffee drinking or the lack of eggs, milk, fruit, and vegetables. The conclusion seems to be warranted that ignorance of the needs of growing children, the lack of realization of the importance of these foods in a young child's diet, and the consequent failure to provide them or to make certain they are eaten, are also important factors.

The first part of the book is devoted to a general history of the United States from the discovery of the continent to the present time. It is divided into three main periods: the colonial period, the revolutionary period, and the federal period. The colonial period is characterized by the struggle for independence from Great Britain, and the revolutionary period by the establishment of a new government. The federal period is marked by the growth of the nation and the development of its institutions. The second part of the book is a detailed account of the political and social life of the United States. It covers the various branches of government, the judiciary, the executive, and the legislative departments. It also discusses the rights and duties of the citizen, the structure of the family, and the organization of society. The third part of the book is a collection of essays on the history of the United States. These essays are written by some of the most prominent historians of the country, and they provide a comprehensive and authoritative account of the nation's past. The book is written in a clear and concise style, and it is suitable for both the general reader and the student. It is a valuable work that should be read by everyone who is interested in the history of the United States.

The book is a masterpiece of historical writing, and it is a testament to the skill and scholarship of the author. It is a work that has stood the test of time, and it is a book that should be read by every citizen of the United States. It is a book that provides a comprehensive and authoritative account of the nation's past, and it is a book that is suitable for both the general reader and the student. It is a valuable work that should be read by everyone who is interested in the history of the United States.

## GENERAL SUMMARY AND CONCLUSIONS.

This inquiry into the conditions surrounding children of preschool age in Gary, Ind., based upon the information secured from the mothers of 6,015 children, and representing 3,991 families, has revealed certain favorable conditions in the community and in the families of the children and others that tend to affect adversely their health and welfare.

### COMMUNITY CONDITIONS.

Sewer and water systems had been so constructed that they could readily be extended, and the purity of the water supply was safeguarded; but in some of the less developed sections sewer connections and city water supply were lacking in many homes. Garbage collection and disposal, street cleaning, and inspection of alleys were receiving regular attention (by the end of the period of the study). The milk and food supply was protected by an adequate ordinance—enforced by one milk and food inspector—and the municipal laboratory was equipped to render the services required of it.

Housing regulations were distinctly inadequate, with the result that not only housing shortage but such evils as lot overcrowding, rear houses, and badly constructed tenements and “shacks” appeared in some sections.

The health office had an insufficient staff consisting of a part-time health officer and one nurse. A sanitary inspector and a deputy were employed, however, to inspect housing and sanitation. In the summer of 1918 a beginning was made in municipal child-health work through a station in the center of the foreign district, with a city nurse who was employed as a member of the police staff in charge, for the care of children between the ages of 2 and 6 years as well as of infants.

Aside from the playgrounds in connection with schools, the city had in 1918 only one municipal playground. However, comparatively few large districts were so overcrowded that children of the ages here considered had altogether inadequate play space, and the city was ambitious to provide more ample park and playground facilities. Many of the children had yards of their own, or shared by two or three families. Since the time of the study, the annexation of a town has made possible a lake-front park.

## HOME CONDITIONS AND THE CARE OF THE CHILDREN.

The mothers of almost two-thirds of the children considered had been born outside the United States, and were of many different nationalities, the Slavic predominating; the mothers of only 4 per cent were colored. Inability to speak English handicapped the mothers of 37 per cent of the children and the fathers of 11 per cent. The mothers of almost one-fourth of the children and the fathers of about one-eighth were unable to read or write in any language. All but 6 per cent of the children were living in homes in which both the mother and the father were present. Family life in the group studied was relatively stable; almost four-fifths of the families had moved from one city to another but once or not at all. The families were found to be of average size; two-thirds of the children were in families with from four to six members living in the home. Almost two-thirds of the children were living in districts of comparatively slight development with reference to sanitation and with largely foreign populations.

The information secured in the course of the inquiry indicates to some extent the degree to which the mothers and fathers were able to give their children the essentials of care with reference to shelter, food, recreation, and hygienic habits. No information was obtained regarding clothing, nor were data secured with reference to the moral training of the children. Their physical condition has been described in a separate report.<sup>7</sup>

### Housing.

Favorable aspects of the housing as found in this study were the predominance of the one- or two-family dwelling (three-fourths of the children lived in dwellings of this type,) and the possibilities of cross-ventilation (nine-tenths lived in homes which on at least three sides had doors or windows opening to the outer air.) Not quite two-fifths of the children lived in houses equipped with sink, water-closet, and bathtub, and the homes of one-fifth lacked all these sanitary conveniences. Almost four-fifths of the children lived in homes which were not dependent upon a water supply located outside the dwelling. The families of four-fifths of the children did not share a toilet with any other family.

Of the 6,015 children included in the study, one-fourth were in households which were overcrowded, according to the standard of two or more persons per room.

---

<sup>7</sup> Rude, Anna E., M. D.: *Physical Status of Preschool Children*, Gary, Ind. U. S. Children's Bureau Publication No. 111.

**Economic status.**

The chief breadwinner (almost always the father) in 28 per cent of the families earned less than \$1,050 a year, and in almost three-fifths he earned less than \$1,450. In only 15 per cent of the families did the chief breadwinner's earnings reach or exceed \$1,850. The chief breadwinners of three-fifths of the families were employed in the steel industry. Although the information regarding earnings was secured for the year 1917, a year relatively free from unemployment, 52 per cent of the chief breadwinners had experienced periods of nonemployment of from 1 to 12 months' duration. Illness, of self or some other member of the family, was the major cause of nonemployment most often reported, but in 9 per cent of the cases in which the chief breadwinner was a wage earner he had lost working time from industrial causes beyond his control.

During the same year the mothers in about three-fifths of the families were not gainfully employed, either within their homes or outside. The mothers of 33 per cent kept lodgers or did other gainful work at home, and the mothers of only 5 per cent did work which took them outside the home. One child in 13 had been deprived of the care of his mother for longer or shorter periods—during the day, at least—because of the mother's employment. The majority of the children whose mothers had been employed outside the home were cared for at home, by an adult in the household or by an older child. The mothers of three-fifths of the children had no help with their household tasks.

**Habits of cleanliness.**

Only 21 children failed to receive at least one bath a week in the summer time. In winter, 6 per cent were not bathed thus often, and 61 per cent more were not bathed more than once a week. The younger children were bathed more frequently than the older.

**Sleep.**

The amount of sleep the children were receiving appeared to be inadequate in at least one-twelfth of the cases. Daytime naps were not common, and 42 per cent of the 2- and 3-year-old children not receiving daytime naps were sleeping less than 12 hours nightly. Nearly two-fifths of the children failed to observe a regular hour for retiring and about the same proportion did not have a regular time for rising. About one-third of the children were sleeping in some of the clothes they wore by day. Only about one-half slept with open windows at all seasons. Four per cent of the children occupied bedrooms alone, and 42 per cent slept four, five, six, or more in a room. Not quite one-fourth of the children had separate beds; 27 per cent shared beds with two other persons.

## Diet.

Less than 10 per cent of the children were receiving diets which according to the scale used appeared in every way adequate to their needs; 29.2 per cent were receiving diets of questionable adequacy, and 60.5 per cent had diets plainly incapable of covering all their bodily requirements. The younger children had slightly better diets than the older ones.

With reference to specific items of the diet, only 18.9 per cent of the children were receiving the amount of milk which it is agreed is the minimum they should be given, and more than half the children (57.2 per cent) had no milk at all to drink on the day to which the information relates.<sup>8</sup> On the other hand, more than two-thirds of the children had coffee or tea on the day of the study, many of them more than once. Three-fifths of the diets did not include eggs, three-fourths lacked cereals, and half included no vegetables except potatoes. Potatoes and meat were used more generally, each being present in about two-thirds of the diets. Meals were irregular and unsuited to the needs of children in the majority of cases, and eating between meals was almost universal. In the cases of one-twelfth of all the children both breakfast and lunch failed to meet an extremely low standard of adequacy.

The clinical findings failed to indicate any definite relation between the grade of diet and the weight of the children; however, the physical examinations showed that on the whole the children receiving the better diets were more free from defects and in better physical condition.

## Variations of care according to nativity and race.

In practically all respects the foreign-born mothers and the colored mothers were less able than the native white to give their children adequate care. The proportion of home ownership was highest among the foreign born, due possibly to the fact that company provision for housing had been more complete for the native white population. But in respect to sanitary conveniences such as city water, flush toilets, and bathtubs, the native white ranked first, the foreign born second, and the colored third. The homes of foreign-born mothers were the most overcrowded, and the homes of the native white the least.

Economic conditions were better in the homes of children whose mothers were native white than in the homes of those whose mothers were foreign born or colored. The chief breadwinner's annual earnings fell below \$850 in the cases of 7 per cent of the children in the first group, but of 17 per cent of those in the second and 24 per cent of those in the third.

---

<sup>8</sup> For description of method of securing data, see p. 53.



In about three-tenths of the families with native white mothers, in two-fifths of those with foreign born, and in over half of those with colored mothers, the mother had been gainfully employed during the period covered by the inquiry. The proportion of mothers who received no help in their household tasks was largest among the foreign born and smallest among the native white.

No significant differences between the different race and nativity groups appeared with reference to time spent outdoors and hours of sleep, but in other items native white mothers usually ranked first; sometimes the foreign born and sometimes the colored had second place. Children of foreign-born mothers were bathed less often than children of native white or of colored mothers. The superiority of the homes of the native white with reference to sanitary conveniences must be borne in mind in this connection. Observing a regular hour for going to bed was the practice for 80 per cent of the children in the native white group, 63 per cent of the colored children, and 53 per cent of the children in the group of foreign-born parentage. The children of native white and of colored mothers also retired at earlier hours than the children in the other group. A smaller proportion of colored children than of the children of native white or of foreign-born mothers used as night clothing part of their daytime apparel. With respect to ventilation of the bedroom, the care of the children of native white mothers was markedly superior, and the children of the foreign born had the poorest records. Overcrowding in the bedroom was much more prevalent in the homes of the foreign born than in those of the other two groups.

An analysis of the rank of the various nationality groups according to the various items in the diets of the children has been given elsewhere in this report. (See pp. 60, 62.) In most respects the diets of the children of native white mothers were superior to the diets of children in other groups. However, almost half of the children in this favored group had inadequate diets according to the standard employed in this study. The diets of about seven-tenths of the colored children and the children of foreign-born parentage were inadequate.

### **Variations of care according to income.**

The definite correlation between income and infant mortality revealed by infant mortality studies made by the Children's Bureau appeared in the Gary study of infant mortality, the infant death rate being lower in the higher income groups. Similarly, in this study the children of preschool age living in families with the higher incomes were receiving the most nearly adequate care. More than one-tenth of the children in the earnings group under \$1,050 had been deprived of the care of their mothers for longer or shorter

periods because of the mothers' gainful employment outside the home. The mothers of half the children in the highest earnings group (\$1,850 or over) had hired assistance in their household tasks, in contrast to much lower percentages in the other groups.

Crowding of bedrooms was more usual in families in which the breadwinner's earnings were low.

The use of different foods and the grade of diet showed little variation when comparison was made of the three lowest income groups only. Above \$1,250, however, there seemed to be a relation between income, consumption of food, and diet grade. Yet income alone did not appear to be the determining factor in the diets of the children. The discussion of diets has pointed out that ignorance of the needs of growing children and of the importance of certain essential foods is at least equally responsible with the economic factor for the deficiencies found.

### CONCLUSIONS.

The findings of this study relate only to the children of one city; doubtless similar conditions, with more or less minor variations, exist in many other communities. Certain of the conditions revealed may be remedied by community action for better housing and by still further extension of sewer and water connections. Increased earnings in many of the homes would undoubtedly result in more adequate care of the children. Of fundamental and immediate importance, also, is the education of the mothers in the essentials of child care—the food requirements of children and the methods of preparing suitable meals for them, and their needs with reference to sleep, fresh air, and cleanliness.

---

---

## APPENDIXES.



## APPENDIX A.

### SAMPLE DIETS FOR THE VARIOUS DIET GRADES.

GRADE A.—*Adequate and suitable in character.*

[Age, 2 years.]

Meal.	Hour.	Milk.	Other foods.
Breakfast.....	8.00	Half pint.....	Oatmeal, toast, prunes.
Dinner.....	12.30	.....do.....	Mashed potato, spinach, soft egg, bread and butter.
Supper.....	5.30	.....do.....	Toast, baked apple.

Comments: Contains  $1\frac{1}{2}$  pints milk, a vegetable besides potato, two fruits, and an egg. Requirements seem well covered. Foods are suitable in character, meals regular and at good hours. There is no haphazard eating between meals.

GRADE B.—*Contains essential elements but fails to measure up to A standard.*

[Age, 4 years.]

Meal.	Hour.	Milk.	Other foods.
Breakfast.....	8.15	Half pint.....	Shredded wheat biscuit, 1 dish cornflakes, and milk.
Dinner.....	12.00	None.....	Steak, potatoes, navy beans, bread, and butter.
Supper.....	5.30	.....do.....	Steak, roast pork, sweet corn, potato, buttermilk, apple pie, cheese.
Other.....	Irregularly during day.	.....do.....	Crackers, apple, ice-cream cone, muskmelon.

Comments: Child probably has 1 pint of milk but not the  $1\frac{1}{2}$  pints for the A standard. The requirements may be covered but the meals are not ideal, and eating between meals is too promiscuous for an A diet.

GRADE C.—*Questionable.*

[Age, 6 years.]

Meal.	Hour.	Milk.	Other foods.
Breakfast.....	9.30	None.....	Cocoa and oatmeal.
Dinner.....	1.00	.....do.....	Beef, potatoes, apple, bread, and butter.
Supper.....	7.00	Half pint.....	2 fried eggs, canteloupe, bread, and butter.
Other.....	9 p. m. (irregular).	None.....	2 or 3 plums, crackers.

Comments: Diet is better than D diets because of some milk, fruits, eggs, and whole cereal. It can not be graded as B because milk is under standard, and it is doubtful if requirements are all met. Meals are irregular and "piecing" common.

GRADE D.—*Inadequate.*

[Age, 4 years.]

Meal.	Hour.	Milk.	Other foods.
Breakfast.....	7.30	None.....	1 cup coffee, bread.
Dinner.....	1.00 (irregular).	.....do.....	1 cup tea, 2 cakes.
Supper.....	6.30	.....do.....	Beef soup with carrots, potato, beans, 2 slices bread.
Other times..	Irregular	.....do.....	Bread.

Comments: Without milk the calcium can not fail to be low. The diet appears unquestionably low in calories, in adequate protein, in minerals, and in vitamins. It perhaps should be called an E diet, but the meat and vegetables make it somewhat superior to ones rated as E.

GRADE E.—*Extremely inadequate.*

[Age, 5 years.]

Meal.	Hour.	Milk.	Other foods.
Breakfast.....	9.00	None.....	Coffee, 1 slice bread.
Dinner.....	1.00	.....do.....	Spaghetti, bread, root beer.
Supper.....	6.00	.....do.....	Lettuce with vinegar, bread, root beer.
Other.....	Irregular	.....do.....	Bread.

Comments: Diet seems totally lacking in all requirements of an adequate diet.

## APPEN

## SCHEDULE USED

Sym.	Surname	Father																																	
<b>BABY—N.</b> 1. Name ..... S. N.																																			
2. B. G. 3. L. B., S. B., M. 4. L. I. ....																																			
5. Date of birth ..... 1916.																																			
6. Attendant: (a) Phy'n, Hosp., Mwf., Oth., N. (b) Late, N. .... hrs.																																			
(c) Name .....																																			
7. Died: (a) Date ..... 191 (b) Age ..... m.																																			
(c) Phy'n .....																																			
(d) D. C. Causes: .....																																			
8. Feeding: (a) Breast only, through ..... m. (b) Weaned end of ..... m.																																			
(c) Food: Cow's milk, N. Cond. milk, N. Solid food, N.																																			
Prop. foods, N. (specify) .....																																			
(d) Supervised by: N., Phy'n, Nurse, Lit., Oth. ....																																			
(e) Cause of weaning: ..... Phy'n, N.																																			
9. Bedroom: (a) Sep. room, N. Ad. .... Ch. .... Total .....																																			
(b) Specify oth. occ. ....																																			
(c) Sep. bed, N. Ad. .... Ch. .... Total .....																																			
(d) Specify oth. occ. ....																																			
(e) Window open: Winter, N.; Summer, N. ....																																			
10. No. baths per wk.: W. .... S. ....																																			
11. Outdoor air: (a) Amount ..... hrs. (b) Place .....																																			
<b>MOTHER—12.</b> Prenatal care: (a) Lit., N.; Nurse, N.; Phy'n, N.																																			
<table border="1"> <thead> <tr> <th></th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> <th>9</th> <th>Phys. exam.</th> </tr> </thead> <tbody> <tr> <td>(b) Saw phyn., N. ....</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>(d) H. L. A., N.</td> </tr> <tr> <td>(c) Urine exam., N. ....</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>(e) Meas., N.</td> </tr> </tbody> </table>				1	2	3	4	5	6	7	8	9	Phys. exam.	(b) Saw phyn., N. ....										(d) H. L. A., N.	(c) Urine exam., N. ....										(e) Meas., N.
	1	2	3	4	5	6	7	8	9	Phys. exam.																									
(b) Saw phyn., N. ....										(d) H. L. A., N.																									
(c) Urine exam., N. ....										(e) Meas., N.																									
Confinement: 13. No. visits after by (a) Att'd ..... (b) Oth. med. ....																																			
14. In bed ..... d.																																			
15. Complications: (a) Instr. del., N.; (b) C. S., N.; (c) Conv., N. ....																																			
16. Nursing care: (a) Kind. .... (b) Duration. ....																																			
17. Help with h'wk. (a) Acc't preg., N.; (b) Acc't conf., N.; (c) Usual, N.; (d) Special, N.;																																			
<b>* 18. Mother's Employment History.</b>																																			
<table border="1"> <thead> <tr> <th>(a) Occupations.</th> <th>(b) Industries.</th> <th>(c) Extent.</th> <th>(d) Ages.</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			(a) Occupations.	(b) Industries.	(c) Extent.	(d) Ages.																													
(a) Occupations.	(b) Industries.	(c) Extent.	(d) Ages.																																
19. Work year before confinement: (a) Lodgers ..... ceased ..... bef. (b) Oth. gain. home (specify) ..... ceased ..... bef. (c) Outside (specify) ..... ceased ..... bef.																																			
20. Work year after confinement: (a) Lodgers ..... resumed ..... aft. (b) Oth. gain. home (specify) ..... resumed ..... aft. (c) Outside (specify) ..... resumed ..... aft.																																			
21. From baby acc't wk. from ..... mo. to ..... mo. (a) Reg., Irreg. (b) Extent ..... (c) Caretaker ..... Age ..... At home, Away (d) Oth. (specify) .....																																			
22. (a) Age ..... (Mo. ...., 1917); (b) Marriage ages ..... (c) Duration .....																																			
<b>23. MATERNITY HISTORY.</b>																																			
<table border="1"> <thead> <tr> <th>No.</th> <th>(a) Sex.</th> <th>(b) C's age 1917.</th> <th>(c) Mo. of birth.</th> <th>(d) M's age.</th> <th>(e) Period gest.</th> <th>(f) Cause of death.</th> <th>(g) Age at death.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> <tr> <td>2</td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>			No.	(a) Sex.	(b) C's age 1917.	(c) Mo. of birth.	(d) M's age.	(e) Period gest.	(f) Cause of death.	(g) Age at death.	1								2																
No.	(a) Sex.	(b) C's age 1917.	(c) Mo. of birth.	(d) M's age.	(e) Period gest.	(f) Cause of death.	(g) Age at death.																												
1																																			
2																																			

## DIX B.

## IN STUDY.

Mother's maiden name..... Sym.

FATHER—24. (a) Occ..... (b) Ind.....

(c) Age..... yrs. (d) Emp., Own acc't, Wage earner.....

INCOME—25. Father's wages \$..... per hr., day, wk., mo., yr.....

26. Nonemp.: N. (Specify causes and periods).....

27. Ann. earn. \$.....

28. Mother's earnings: (a) Outside \$..... (b) Lodg. \$.....

(c) Oth. gain. home wk., \$..... (d) Total \$.....

29. Other sources..... Total \$.....

(S) Agg. \$.....

HOME—30. Lived in home described from....., 19..... to....., 1918.

31. Bldg. faces Al., St., Rear. 32. Dwel. in bldg..... 33. Floor: B, 1, 2, 3, 4.

34. Air on 4, 3, 2, 1 sides. 35. Persons: (a) Fam..... (b) Oth..... (c) Tot.....

36. Specify others: (a) Ad..... (b) Ch..... (c) Relationship to children.....

37. Rooms..... 38. Sleep. rms..... 39. Dark rms. (a) No..... (b) Use.....

40. Water: (a) City, Dug well, Dr. well, Cist. (b) In dwel., Out dwel. (specify.).....

41. Toilet: (a) W. C., P. (b) In dwel., Hall, Por., Cel., Yd. (c) Fam. using.....

42. Bath, N. 43. Sink, N. 44. Rental \$..... per m.; Own, Buying.....

45. Description of premises (yd., bldg., and dwel.).....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Sym.	City and State.....	Street address.....	Wd.....	S. No.....
LIVING CHILDREN 2 TO 7 YEARS OF AGE				
1. Preg. no. 2. Age..... yrs. 3. Inf. feeding: (a) Breast only, through..... m. (b) Weaned end of..... m. S. N.				
4. Present diet. (a) Hour. (b) Usual. (c) Amt. milk. (d) Menu day preceding visit (food and beverages).				
Morning..... Y. N.				
Noon..... Y. N.				
Night..... Y. N.				
Other..... Y. N.				
5. Sleep: (a) Retired..... P. M.; Usual, N. (b) Arose..... A. M.; Usual, N. (c) Nap, N. (d) Total sleep..... hrs.; Usual, N.				
6. Bedroom: (a) Separate room, N. (specify other occ.)..... Ch. Ad. Total				
(b) Separate bed, N. (specify other occ.)..... Ch. Ad. Total				
(c) Windows open nights: Winter, N, Summer, N. 7. Night clothes: (a) Specify..... (b) Worn during day, N.				
8. No. baths per wk.: Winter..... Summer..... 9. Dentist: (a) Y. N. (b) Extract, Y. N. (c) Other, Y. N. (Specify causes and number of visits).....				
10. Child Away from Mother.				
(a) Ages. (b) Extent and duration. (c) Causes. (d) Caretaker. (e) Age of other. (f) Remarks.				
11. Illnesses: (a) Sc. fever..... yrs., N. (b) Wh. cgh..... yrs., N. (c) Measles..... yrs., N. (d) Inf. paral..... yrs., N.				
12. Out-of-doors: (a) No. hrs. daily..... (b) Remarks.....				
2. Preg. no. 2. Age..... yrs. 3. Inf. feeding: (a) Breast only, through..... m. (b) Weaned end of..... m. S. N.				
4. Present diet. (a) Hour. (b) Usual. (c) Amt. milk. (d) Menu day preceding visit (food and beverages).				
Morning..... Y. N.				
Noon..... Y. N.				
Night..... Y. N.				
Other..... Y. N.				
5. Sleep: (a) Retired..... P. M.; Usual, N. (b) Arose..... A. M.; Usual, N. (c) Nap, N. (d) Total sleep..... hrs.; Usual, N.				
6. Bedroom: (a) Separate room, N. (specify other occ.)..... Ch. Ad. Total				
(b) Separate bed, N. (specify other occ.)..... Ch. Ad. Total				
(c) Windows open nights: Winter, N, Summer, N. 7. Night clothes: (a) Specify..... (b) Worn during day, N.				
8. No. baths per wk.: Winter..... Summer..... 9. Dentist: (a) Y. N. (b) Extract, Y. N. (c) Other, Y. N. (Specify causes and number of visits).....				
10. Child Away from Mother.				
(a) Ages. (b) Extent and duration. (c) Causes. (d) Caretaker. (e) Age of other. (f) Remarks.				
11. Illnesses: (a) Sc. fever..... yrs., N. (b) Wh. cgh..... yrs., N. (c) Measles..... yrs., N. (d) Inf. paral..... yrs., N.				
12. Out-of-doors: (a) No. hrs. daily..... (b) Remarks.....				



3. 1. Preg. no. 2. Age		3. Inf. feeding: (a) Breast only, through		m. (b) Weaned end of		m. S. N.	
4. Present diet.		(c) Amt. milk.		(d) Menu day preceding visit (food and beverages).			
Morning	Y. N.						
Noon	Y. N.						
Night	Y. N.						
Other	Y. N.						
5. Sleep: (a) Retired		P. M.; Usual		A. M.; Usual		N. (c) Nap, N. (d) Total sleep	
		hrs.		hrs.		hrs.: Usual, N.	
6. Bedroom: (a) Separate room, N. (specify other occ.)		Ch. Ad. Total		Ch. Ad. Total			
(b) Separate bed, N. (specify other occ.)		Ch. Ad. Total		Ch. Ad. Total			
(c) Windows open nights: Winter, N., Summer, N., 7. Night clothes: (a) Specify		Ch. Ad. Total		Ch. Ad. Total			
8. No. baths per wk.: Winter		9. Dentist: (a) Y. N. (b) Extract, Y. N. (c) Other, Y. N. (specify causes and number of visits)					
10. Child Away from Mother.		(d) Caretaker.		(e) Age of ctker.		(f) Remarks.	
(a) Ages.	(b) Extent and duration.	(c) Causes.	(d) Caretaker.	(e) Age of ctker.	(f) Remarks.		
11. Illnesses: (a) Sc. fever	Yrs., N. (b) Wh. eph.	Yrs., N. (c) Measles	Yrs., N. (d) Inf. paral.	Yrs., N.			
12. Out-of-doors: (a) No. hrs. daily	(b) Remarks.						
Mother dead: (a) Date	(b) City and State	(c) Causes					
Schedule inf. given by M., F., Oth. (specify)	Agent:	Date:	1918.				



---

---

## GENERAL TABLES.

---

---



## GENERAL TABLES.

GENERAL TABLE I.—*Number of years residence of foreign-born mothers in the United States, by nationality of mother.*

Nationality of mother.	Children 2 to 7 years of age of foreign-born mothers.						
	Total.	Number of years residence of mother in United States.					
		Less than 5 years.		5 years and over.		Not reported.	
		Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	3,934	199	5.1	3,696	94.0	39	1.0
Polish.....	923	37	4.0	875	94.8	11	1.2
Serbo-Croatian.....	587	32	5.5	552	94.0	3	.5
Slovak.....	546	9	1.6	527	96.5	10	1.8
Magyar.....	291	10	3.4	279	95.9	2	.7
Italian.....	265	17	6.4	243	91.7	5	1.9
German.....	228	5	2.2	221	96.9	2	.9
Lithuanian.....	225	11	4.9	214	95.1	.....	.....
All other foreign born.....	869	78	9.0	785	90.3	6	.7

GENERAL TABLE II.—*Number of persons in family, by color and nationality of mother.*

Children 2 to 7 years of age.

Color and nationality of mother.		Number of persons in family.																										
		1		2		3		4		5		6		7		8		9		10		11		12 and over.		Not re-ported.		
		Number.	Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	
Total.....		36	0.6	58	1.0	593	9.9	1,299	21.6	1,505	25.0	1,157	19.2	684	11.4	386	6.4	173	2.9	53	0.9	35	0.6	17	0.3	19	0.3	
Native white.....		12	.7	28	1.5	327	17.7	536	29.1	429	23.3	284	14.3	125	6.8	74	4.0	19	1.0	7	.4	13	.7	2	.1	7	.4	
Foreign-born white.....		12	.3	16	.4	218	5.5	706	17.9	957	26.4	866	22.0	541	13.8	303	7.7	148	3.8	46	1.2	20	.5	10	.3	11	.3	
Polish.....		923	5	3	.3	34	3.7	135	16.8	255	27.6	229	24.8	115	12.5	81	8.8	36	3.9	9	1.0	6	.6	2	.2	4	.7	
Serbo-Croatian.....		587	5	3	.5	33	5.6	92	15.7	163	27.8	118	20.1	91	15.5	48	8.2	17	2.9	3	.5	4	.7	6	1.0	4	.7	
Slovak.....		546	2	4	1	.2	17	3.1	78	14.3	100	18.3	147	26.9	99	18.1	57	10.4	28	5.1	14	2.6	3	.5	2	.7		
Magyar.....		291	1	2	.7	17	5.8	56	19.2	68	23.4	68	23.4	31	10.7	27	9.3	15	5.2	2	.7	2	.7	2	.7	1	.3	
Italian.....		265	1	4	1	.4	19	8.3	27	10.2	68	25.7	85	32.1	37	14.0	13	4.9	18	6.8	6	2.3	3	1.3	2	.9	5	.8
German.....		228	1	1	.4	19	8.3	48	21.1	78	34.2	44	19.3	20	8.8	8	3.5	2	.9	5	2.2	3	1.3	2	.9	2	.7	
Lithuanian.....		225	1	1	.4	14	6.2	45	20.0	60	26.7	43	19.1	38	16.9	20	8.9	3	1.3	2	.9	2	.9	2	.2	6	.7	
All other.....		869	4	6	.7	74	8.5	205	23.6	245	28.2	132	15.2	110	12.7	49	5.6	29	3.3	5	.6	2	.2	2	.2	6	.7	
Negro.....		232	10	4.3	14	6.0	45	19.4	56	24.1	39	16.8	27	11.6	18	7.8	9	3.9	6	2.6	2	.9	5	2.2	1	.4		
Not reported.....		6	2	3				1																				

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE III.—Length of residence in dwelling and color and nationality of mother, by family tenure of home.

Length of residence in dwelling and color and nationality of mother.	Children 2 to 7 years of age.									
	Total.		Family tenure of home.							Not re-ported. <sup>1</sup>
			Owners.		Buyers.		"Squat-ters."	Renters.		
	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>	Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>		Num-ber.	Per cent dis-tribu-tion.	
Total.....	6, 015	100.0	1, 799	100.0	900	100.0	81	3, 210	100.0	25
Less than 1 year.....	2, 284	38.0	291	16.2	272	30.2	13	1, 707	53.2	1
1 year, less than 2.....	1, 131	18.8	280	15.6	208	23.1	19	623	19.4	1
2 years, less than 3.....	738	12.3	211	11.7	132	14.7	16	379	11.8	.....
3 years, less than 4.....	394	6.6	142	7.9	59	6.6	9	184	5.7	.....
4 years, less than 5.....	408	6.8	191	10.6	89	9.9	6	122	3.8	.....
5 years and over.....	1, 004	16.7	674	37.5	136	15.1	17	173	5.4	4
Not reported.....	56	0.9	10	0.6	4	0.4	1	22	0.7	19
Native white mothers.....	1, 843	100.0	405	100.0	241	100.0	10	1, 178	100.0	9
Less than 1 year.....	770	41.8	84	20.7	76	31.5	1	608	51.6	1
1 year, less than 2.....	353	19.2	66	16.3	63	26.1	.....	223	18.9	1
2 years, less than 3.....	199	10.8	43	10.6	27	11.2	1	128	10.9	.....
3 years, less than 4.....	121	6.6	27	6.7	20	8.3	.....	74	6.3	.....
4 years, less than 5.....	114	6.2	44	10.9	20	8.3	.....	50	4.2	.....
5 years and over.....	272	14.8	138	34.1	34	14.1	7	93	7.9	.....
Not reported.....	14	0.8	3	0.7	1	0.4	1	2	0.2	7
Foreign-born mothers.....	3, 934	100.0	1, 387	100.0	638	100.0	67	1, 827	100.0	15
Less than 1 year.....	1, 347	34.2	206	14.9	184	28.8	12	945	51.7	.....
1 year, less than 2.....	736	18.7	213	15.4	140	21.9	19	364	19.9	.....
2 years, less than 3.....	523	13.3	167	12.0	103	16.1	11	242	13.2	.....
3 years, less than 4.....	272	6.9	115	8.3	39	6.1	9	109	6.0	.....
4 years, less than 5.....	292	7.4	147	10.6	67	10.5	6	72	3.9	.....
5 years and over.....	725	18.4	532	38.4	102	16.0	10	77	4.2	4
Not reported.....	39	1.0	7	0.5	3	0.5	.....	18	1.0	11
Polish.....	923	100.0	315	100.0	192	100.0	8	408	100.0	.....
Less than 1 year.....	303	32.8	54	17.1	35	18.2	3	211	51.7	.....
1 year, less than 2.....	200	21.7	49	15.6	53	27.6	.....	98	24.0	.....
2 years, less than 3.....	121	13.1	29	9.2	35	18.2	2	55	13.5	.....
3 years, less than 4.....	60	6.5	28	8.9	16	8.3	.....	16	3.9	.....
4 years, less than 5.....	55	6.0	26	8.3	16	8.3	.....	13	3.2	.....
5 years and over.....	176	19.1	127	40.3	37	19.3	3	9	2.2	.....
Not reported.....	8	0.9	2	0.6	.....	.....	.....	6	1.5	.....
Serbo-Croatian.....	587	100.0	239	100.0	58	.....	.....	286	100.0	4
Less than 1 year.....	198	33.7	27	11.3	28	.....	.....	143	50.0	.....
1 year, less than 2.....	108	18.4	37	15.5	8	.....	.....	63	22.0	.....
2 years, less than 3.....	70	11.9	26	10.9	7	.....	.....	37	12.9	.....
3 years, less than 4.....	32	5.5	17	7.1	2	.....	.....	13	4.5	.....
4 years, less than 5.....	50	8.5	30	12.6	5	.....	.....	15	5.2	.....
5 years and over.....	120	20.4	101	42.3	8	.....	.....	11	3.8	.....
Not reported.....	9	1.5	1	0.4	.....	.....	.....	4	1.4	4
Slovak.....	546	100.0	229	100.0	92	.....	12	212	100.0	1
Less than 1 year.....	161	29.5	24	10.5	23	.....	.....	114	53.8	.....
1 year, less than 2.....	81	14.8	26	11.4	19	.....	4	32	15.1	.....
2 years, less than 3.....	89	16.3	31	13.5	23	.....	1	34	16.0	.....
3 years, less than 4.....	51	9.3	24	10.5	5	.....	5	17	8.0	.....
4 years, less than 5.....	44	8.1	25	10.9	7	.....	2	10	4.7	.....
5 years and over.....	118	21.6	99	43.2	14	.....	.....	4	1.9	1
Not reported.....	2	0.4	.....	.....	1	.....	.....	1	0.5	.....
Magyar.....	291	100.0	107	100.0	40	.....	10	133	100.0	1
Less than 1 year.....	122	41.9	29	27.1	13	.....	2	78	58.6	.....
1 year, less than 2.....	35	12.0	10	9.3	8	.....	1	16	12.0	.....
2 years, less than 3.....	36	12.4	10	9.3	4	.....	1	21	15.8	.....
3 years, less than 4.....	22	7.6	9	8.4	.....	.....	4	9	6.8	.....
4 years, less than 5.....	25	8.6	11	10.3	8	.....	.....	6	4.5	.....
5 years and over.....	50	17.2	38	35.5	7	.....	2	3	2.3	.....
Not reported.....	1	0.3	.....	.....	.....	.....	.....	.....	.....	1
Italian.....	265	100.0	86	.....	48	.....	2	129	100.0	.....
Less than 1 year.....	126	47.5	18	.....	25	.....	.....	83	64.3	.....
1 year, less than 2.....	41	15.5	6	.....	12	.....	2	21	16.3	.....
2 years, less than 3.....	26	9.8	13	.....	2	.....	.....	11	8.5	.....
3 years, less than 4.....	17	6.4	9	.....	2	.....	.....	6	4.7	.....
4 years, less than 5.....	8	3.0	5	.....	3	.....	.....	.....	.....	.....
5 years and over.....	45	17.0	35	.....	3	.....	.....	7	5.4	.....
Not reported.....	2	0.8	.....	.....	1	.....	.....	1	0.8	.....

<sup>1</sup> Per cent distribution not shown where base is less than 100.

GENERAL TABLE III.—*Length of residence in dwelling and color and nationality of mother, by family tenure of home—Continued.*

Length of residence in dwelling and color and nationality of mother.	Children 2 to 7 years of age.									
	Total.		Family tenure of home.							Not reported. <sup>1</sup>
			Owners.		Buyers.		"Squatters." <sup>1</sup>	Renters.		
	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>		Number.	Per cent distribution. <sup>1</sup>	
Foreign-born mothers—Con.										
German.....	228	100.0	63	.....	38	.....	.....	127	100.0	.....
Less than 1 year.....	73	32.0	7	.....	6	.....	.....	60	47.2	.....
1 year, less than 2.....	43	18.9	10	.....	4	.....	.....	29	22.8	.....
2 years, less than 3.....	32	14.0	11	.....	8	.....	.....	13	10.2	.....
3 years, less than 4.....	10	4.4	2	.....	3	.....	.....	5	3.9	.....
4 years, less than 5.....	20	8.8	9	.....	7	.....	.....	4	3.1	.....
5 years and over.....	50	21.9	24	.....	10	.....	.....	16	12.6	.....
Lithuanian.....	225	100.0	107	100.0	39	.....	.....	79	.....	.....
Less than 1 year.....	54	24.0	10	9.3	6	.....	.....	38	.....	.....
1 year, less than 2.....	56	24.9	25	23.4	11	.....	.....	20	.....	.....
2 years, less than 3.....	32	14.2	14	13.1	9	.....	.....	9	.....	.....
3 years, less than 4.....	16	7.1	9	8.4	.....	.....	.....	7	.....	.....
4 years, less than 5.....	16	7.1	8	7.5	5	.....	.....	3	.....	.....
5 years and over.....	47	20.9	39	36.4	8	.....	.....	.....	.....	.....
Not reported.....	4	1.8	2	1.9	.....	.....	.....	2	.....	.....
All other.....	869	100.0	241	100.0	131	100.0	35	453	100.0	9
Less than 1 year.....	310	35.7	37	15.4	48	36.6	7	218	48.1	.....
1 year, less than 2.....	172	19.8	50	20.7	25	19.1	12	85	18.8	.....
2 years, less than 3.....	117	13.5	33	13.7	15	11.5	7	62	13.7	.....
3 years, less than 4.....	64	7.4	17	7.1	11	8.4	.....	36	7.9	.....
4 years, less than 5.....	74	8.5	33	13.7	16	12.2	4	21	4.6	.....
5 years and over.....	119	13.7	69	28.6	15	11.5	5	27	6.0	3
Not reported.....	13	1.5	2	0.8	1	0.8	.....	4	0.9	6
Negro mothers.....	232	100.0	5	.....	21	.....	4	201	100.0	1
Less than 1 year.....	164	70.7	1	.....	12	.....	.....	151	75.1	.....
1 year, less than 2.....	41	17.7	1	.....	5	.....	.....	35	17.4	.....
2 years, less than 3.....	16	6.9	1	.....	2	.....	4	9	4.5	.....
3 years, less than 4.....	1	0.4	.....	.....	.....	.....	.....	1	0.5	.....
4 years, less than 5.....	2	0.9	.....	.....	2	.....	.....	.....	.....	.....
5 years and over.....	5	2.2	2	.....	.....	.....	.....	3	1.5	.....
Not reported.....	3	1.3	.....	.....	.....	.....	.....	2	1.0	1
Nationality of mother not reported.....	6	.....	2	.....	.....	.....	.....	4	.....	.....
Less than 1 year.....	3	.....	.....	.....	.....	.....	.....	3	.....	.....
1 year, less than 2.....	1	.....	.....	.....	.....	.....	.....	1	.....	.....
5 years and over.....	2	.....	2	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Per cent distribution not shown where base is less than 100.





GENERAL TABLE V.—*Location of water supply, by district of residence.*

District of residence.	Children 2 to 7 years of age.						
	Total.	Location of water supply.					
		In dwelling.		Outside dwelling.		Not reported.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent.
Total.....	6,015	4,757	79.1	1,239	20.6	19	0.3
Ambridge.....	162	160	98.8	2	1.2		
Clark.....	40	24		16			
First Subdivision.....	1,496	1,465	97.9	24	1.6	7	.5
Lincoln Park.....	99	57		42			
Ridge Road and Glen Park.....	393	284	72.3	108	27.5	1	.3
South Side.....	2,890	2,231	77.2	648	22.4	11	.4
Tolleston.....	892	511	57.3	381	42.7		
West Gary.....	43	25		18			

<sup>1</sup> Not shown where base is less than 100.

## Sanitary accommodations.

District of residence.	Water supply.				Toilet.				Bathrub.				Spk.														
	To- tal.	City.		Well or cistern.		Not reported.		Water- closet.	Yard privy.		Not reported.		Yes.	No.		Not reported.	Yes.	No.		Not reported.							
		Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>		Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>		Num- ber.	Per cent. <sup>1</sup>			Num- ber.	Per cent. <sup>1</sup>		Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>			
Total.....	6,015	4,498	74.8	1,496	24.9		21	0.3	3,964	65.9	2,032	33.8	19	0.3	2,236	37.2	3,760	62.5	19	0.3	4,637	77.1	1,336	22.5		22	0.4
Ambridge.....	162	162	100.0					162	100.0						162	100.0											
Clark.....	40			40						40					24								16				
First Subdivision	1,496	1,484	99.2	5	0.3		7	.5	1,481	99.0	8	.5	7	.5	1,324	88.5	165	11.0	7	.5	1,457	97.4	32	2.1		7	.5
Lincoln Park.....	99	50		49				35		64					15		84				54		45				
Ridge Road and Glen Park.....	363	282	77.8	110	28.0		1	.3	130	33.1	262	66.7	1	.3	100	25.4	292	74.3	1	.3	273	69.5	119	30.3		1	.3
South Side.....	2,890	2,245	77.7	632	21.9		13	.4	1,862	67.5	927	32.1	11	.4	520	18.0	2,359	81.6	11	.4	2,182	75.5	697	24.1		11	.4
Tollleston.....	892	275	30.8	617	69.2				202	22.6	690	77.4			114	12.8	778	87.2			461	51.7	429	48.1		1	.1
West Gary.....	43			43				2		41					1		42				24		18			1	

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE VII.—Sanitary accommodations of dwelling, by color and nationality of mother.

Children 2 to 7 years of age.

Sanitary accommodations.

Color and nationality of mother.	Water supply.						Toilet.				Bathtub.				Sink.										
	City water.		Well or cistern.		Not reported.		Water-closet.		Yard privy.		Not reported.		Yes.		No.		Yes.		No.		Not reported.				
	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent.			
Total.....	6,015	4,498	74.8	1,496	24.9	21	0.3	3,964	65.9	2,032	33.8	19	0.3	2,236	37.2	3,760	62.5	19	0.3	4,637	77.1	1,356	22.5	22	0.4
Native white....	1,843	1,542	83.7	294	16.0	7	.4	1,437	78.0	399	21.6	7	.4	1,277	69.3	559	30.3	7	.4	1,607	87.2	228	12.4	8	.4
Foreign-born white....	3,934	2,790	70.9	1,131	28.8	13	.3	2,395	60.8	1,528	38.9	11	.3	912	23.2	3,011	76.5	11	.3	2,874	73.1	1,047	26.6	13	.3
Polish.....	923	633	68.6	290	31.4			491	53.2	432	46.8			82	8.9	841	91.1			622	67.4	301	32.6		
Serbo-Cro-atian.....	537	465	79.2	118	20.1	4	.7	413	70.4	170	29.0	4	.7	107	18.2	476	81.1	4	.7	466	79.4	115	19.6	6	1.0
Slovak.....	546	327	59.9	217	39.8	2	.4	278	50.9	268	49.1			82	15.0	464	85.0			330	60.5	216	39.6		
Hungary.....	291	200	68.7	90	30.9	1	.3	164	56.4	126	43.3	1	.3	85	29.2	205	70.4	1	.3	191	65.6	99	34.0	1	.3
Italian.....	265	224	84.5	41	15.5			212	80.0	53	20.0			71	26.8	194	73.2			241	89.9	24	9.1		
German.....	228	175	76.8	53	23.2			140	61.4	88	38.6			91	39.9	137	60.1			198	86.8	30	13.2		
Lithuanian.....	225	120	53.3	105	46.7			111	49.3	114	50.7			25	11.1	200	88.9			157	69.8	68	30.2		
All other.....	869	646	74.4	217	25.0	6	.7	586	67.4	277	31.9	6	.7	369	42.5	494	56.9	6	.7	669	77.0	194	22.3	6	.7
Negro.....	232	160	69.0	71	30.6	1	.4	127	54.7	104	44.8	1	.4	42	18.1	189	81.5	1	.4	150	64.7	81	34.9	1	.4
Not reported.....	6							5		1				5		1				6					

<sup>1</sup> Not shown where base is less than 100.

## Water-closet.

Number of families using toilet and district of residence.

Total.		Total.		In dwelling.		Outside dwelling.								Yard privy.		Not reported.				
						Hall.				Porch.		Cellar.					Yard.			
						Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>				Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>
All districts.		6,015	3,964	65.9	52.2	414	6.9	123	2.0	195	3.2	89	1.5	2	(*)	2,032	33.8	19	0.3	
1.....	4,782	3,264	68.3	3,015	63.0	53	1.1	40	.8	144	3.0	12	.3			1,518	31.7			
2.....	910	534	58.7	120	13.2	286	31.4	55	6.0	43	4.7	28	3.1	2	.2	376	41.3			
3.....	176	91	51.7	4	2.3	45	25.6	26	14.8	6	3.4	10	5.7			85	48.3			
4 and over.....	111	66	59.5	2	1.8	24	21.6	2	1.8	2	1.8	36	32.4			45	40.5			
Not reported.....	36	9				6						3				8		19		
Ambridge.	162	162	100.0	162	100.0															
1.....	162	162	100.0	162	100.0															
Clark.....	40																			
1.....	40																			
First Subdivision.	1,496	1,481	99.0	86.6	74	4.9	1	.1	110	7.4						40		7	.5	
1.....	1,330	1,323	99.5	91.4	1	1			106	8.0						8	.5			
2.....	135	134	99.3	57.0	52	38.5	1	.7	4	3.0						7	.5			
3.....	20	20			17											1	.7			
4 and over.....	3	3			3															
Not reported.....	8	1																		
Lincoln Park.....	99	35			1			1		5										
1.....	90	35			1			1		5						64		7		
2.....	9																			
Ridge Road and Glen Park.	393	130	33.1	30.5	4	1.0	2	.5	3	.8	1	.3				9				
1.....	366	126	34.4	32.8	1	.3	2	.5	3	.8						262	66.7	1	.3	
2.....	26	4			3											240	65.6			
Not reported.....	1															22		1		

<sup>1</sup> Not shown where base is less than 100.

\* Less than one-tenth of 1 per cent.

GENERAL TABLE VIII.—Type and location of toilet, by number of families using toilet and district of residence—Concluded.

Children 2 to 7 years of age.																	
Type and location of toilet.																	
Water-closet.																	
Outside dwelling.																	
Yard.																	
Cellar.																	
Porch.																	
Hall.																	
In dwelling.																	
Total.																	
Total.																	
Yard privy.																	
Not reported.																	

Number of families using toilet and district of residence.	Total.	Total.		In dwelling.		Hall.		Porch.		Cellar.		Yard.		Location not reported.		Yard privy.		Not reported.	
		Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>
South side.....	2,880	1,452	67.5	1,358	47.0	323	11.2	115	4.0	70	2.4	84	2.9	927	32.1	11	0.4		
1.....	2,033	1,431	70.4	1,314	64.6	50	2.5	33	1.6	25	1.2	9	.4	602	29.6				
2.....	1,431	1,390	62.1	1,411	6.7	219	35.8	54	8.8	37	6.0	27	4.4	232	37.9				
3.....	128	70	54.7	1	.8	28	21.9	26	20.3	6	4.7	9	7.0	58	45.3				
4 and over.....	91	63		2		21		2		2		36		28					
Not reported.....	26	8				5						3		7		11			
Tollerton.....	892	202	22.6	175	19.6	12	1.3	4	.4	7	.8	4	.4	690	77.4				
1.....	718	185	25.8	173	24.1			4	.6	5	.7	3	.4	533	74.2				
2.....	128	16	12.5	2	1.6	12	9.4			2	1.6			112	87.5				
3.....	28	1										1		27					
4 and over.....	17													17					
Not reported.....	1													1					
West Gary.....	43	2		2										41					
1.....	43	2		2										41					

<sup>1</sup> Not shown where base is less than 100.

Water-closet.																		
Outside dwelling.																		
Total chil- dren.	Total.		In dwelling.		Hall.		Porch.		Cellar.		Yard.		Location not reported.		Yard privy. Not reported.			
	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent.	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent.
Total.....	6,015	3,964	65.9	52.2	414	6.9	123	2.0	195	3.2	89	1.5	2	( <sup>2</sup> )	2,032	33.8	19	0.3
1.....	4,782	3,264	68.3	63.0	53	1.1	40	.8	144	3.0	12	.3	.....	.....	1,518	31.7	.....	.....
2.....	910	534	58.7	13.2	286	31.4	55	6.0	43	4.7	28	3.1	2	0.2	376	41.3	.....	.....
3.....	176	91	51.7	4	45	25.6	26	14.8	6	3.4	10	5.7	.....	.....	85	48.3	.....	.....
4 and over.....	111	66	59.5	2	24	21.6	2	1.8	2	1.8	36	32.4	.....	.....	45	40.5	.....	.....
Not reported.....	36	9	.....	.....	6	.....	.....	.....	.....	.....	3	.....	.....	.....	8	.....	19	.....
Native white mothers.....	1,843	1,437	78.0	70.5	89	4.8	5	.3	43	2.3	1	.1	.....	.....	399	21.6	7	.4
1.....	1,641	1,283	78.2	75.6	3	2.2	.....	.....	38	2.3	1	.....	.....	.....	358	21.8	.....	.....
2.....	162	129	79.6	34.0	66	40.7	3	1.9	5	3.1	.....	.....	.....	.....	33	20.4	.....	.....
3.....	27	19	3	.....	14	.....	2	.....	.....	.....	.....	.....	.....	.....	8	.....	.....	.....
4 and over.....	6	6	.....	.....	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not reported.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Foreign-born white mothers.....	3,934	2,395	60.9	44.5	302	7.7	113	2.9	150	3.8	76	1.9	2	.1	1,528	38.8	11	.3
1.....	3,003	1,893	63.0	56.2	49	1.6	39	1.3	106	3.5	10	.3	.....	.....	1,110	37.0	.....	.....
2.....	686	378	55.1	8.7	204	29.7	48	7.0	38	5.5	26	3.8	2	.3	308	44.9	.....	.....
3.....	138	71	51.4	1	30	21.7	24	17.4	6	4.3	10	7.2	.....	.....	67	48.6	.....	.....
4 and over.....	82	44	.....	.....	13	.....	2	.....	.....	.....	27	.....	.....	.....	38	.....	11	.....
Not reported.....	25	9	.....	.....	6	.....	.....	.....	.....	.....	3	.....	.....	.....	5	.....	.....	.....
Negro mothers.....	232	127	54.7	36.6	23	9.9	5	2.2	2	.9	12	5.2	.....	.....	104	44.8	1	.4
1.....	133	83	62.4	60.1	16	.8	1	.8	.....	.....	1	.8	.....	.....	50	37.6	.....	.....
2.....	62	27	.....	5	.....	.....	4	.....	.....	.....	2	.....	.....	.....	35	.....	.....	.....
3.....	10	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	9	.....	.....	.....
4 and over.....	23	16	.....	.....	5	.....	.....	.....	2	.....	9	.....	.....	.....	7	.....	.....	.....
Not reported.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	1	.....
Nativity of mother not reported.....	6	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....
1.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.....	5	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
3.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.      <sup>2</sup> Less than one-tenth of 1 per cent.

GENERAL TABLE X.—Number of rooms in dwelling, by district of residence.

Children 2 to 7 years of age.																
District of residence.																
Number of rooms in dwelling.	Total.		Ambridge.		Clark. <sup>1</sup>	First Subdivision.		Lincoln Park. <sup>1</sup>	Ridge Road and Glen Park.		South Side.		Tolleston.		West Gary. <sup>1</sup>	
	Number.	Per cent distri- bution.	Number.	Per cent distri- bution.		Number.	Per cent distri- bution.		Number.	Per cent distri- bution.	Number.	Per cent distri- bution.	Number.	Per cent distri- bution.		
	Total.....	6,015	100.0	162	100.0	40	1,496	100.0	99	393	100.0	2,890	100.0	892	100.0	43
.....	28	5	8	5	.....	33	2.2	5	42	10.7	17	6	3	3	.....	
.....	506	8.4	1	6	.....	98	6.6	32	49	12.5	342	11.8	82	9.2	.....	
.....	892	14.8	63	42.0	4	333	22.3	31	128	32.6	595	20.6	111	12.4	.....	
.....	2,304	38.3	73	45.1	11	355	23.7	14	89	22.6	1,407	48.7	316	35.7	.....	
.....	1,060	17.6	15	9.3	12	366	24.5	8	52	13.2	282	9.8	224	25.1	.....	
.....	1,757	29.2	.....	.....	.....	.....	.....	.....	.....	.....	154	5.3	119	13.3	.....	
.....	240	4.0	.....	.....	2	150	10.0	5	20	5.1	37	1.3	22	2.5	.....	
.....	143	2.4	4	2.5	.....	95	6.4	3	7	1.8	23	.8	11	1.2	.....	
.....	84	1.4	1	.6	.....	50	3.3	1	5	1.3	21	.7	4	.4	.....	
.....	21	.3	.....	.....	.....	8	.5	.....	1	.3	12	.4	.....	.....	.....	
.....	Not reported	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	

<sup>1</sup> Per cent distribution not shown where base is less than 100.



GENERAL TABLE XI.—Aggregate annual earnings of family in 1917 and color and nativity of mother, by annual earnings of chief breadwinner.

Aggregate annual earnings of family in 1917 and color and nativity of mother.	Children 2 to 7 years of age.											
	Total.		Annual earnings of chief breadwinner in 1917.						No chief breadwinner and no earnings.		Not reported	
			Under \$1,050.		\$1,050-\$1,849.		\$1,850 and over.					
	Number.	Per cent distribution.	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>	Number.	Per cent distribution. <sup>1</sup>
Total.....	6,015	100.0	1,774	100.0	2,949	100.0	819	100.0	129	100.0	344	100.0
Aggregate including earnings of chief breadwinner only.....	3,431	57.0	920	51.9	1,744	59.1	555	67.8	23	17.8	189	54.9
Aggregate including additional earnings.....	2,584	43.0	854	48.1	1,205	40.9	264	32.2	106	82.2	155	45.1
Under \$1,050.....	447	7.4	376	21.2	.....	.....	.....	.....	71	55.0	.....	.....
\$1,050 to \$1,849.....	1,152	19.2	321	18.1	822	27.9	.....	.....	6	4.7	3	0.9
\$1,850 and over.....	612	10.2	77	4.3	282	9.6	245	29.9	8	6.2	.....	.....
Not reported.....	373	6.2	80	4.5	101	3.4	19	2.3	21	16.3	152	44.2
Native white mothers.....	1,843	100.0	257	100.0	968	100.0	481	100.0	31	.....	106	100.0
Aggregate including earnings of chief breadwinner only.....	1,206	65.4	162	63.0	612	63.2	352	73.2	9	.....	71	67.0
Aggregate including additional earnings.....	637	34.6	95	37.0	356	36.8	129	26.8	22	.....	35	33.0
Foreign-born white mothers.....	3,934	100.0	1,402	100.0	1,893	100.0	330	100.0	92	.....	217	100.0
Aggregate including earnings of chief breadwinner only.....	2,118	53.8	703	50.1	1,092	57.7	200	60.6	14	.....	109	50.2
Aggregate including additional earnings.....	1,816	46.2	699	49.9	801	42.3	130	39.4	78	.....	108	49.8
Negro mothers.....	232	100.0	115	100.0	87	.....	4	.....	6	.....	20	.....
Aggregate including earnings of chief breadwinner only.....	103	44.4	55	47.8	39	.....	1	.....	.....	.....	8	.....
Aggregate including additional earnings.....	129	55.6	60	52.2	48	.....	3	.....	6	.....	12	.....
Nativity not reported.....	6	.....	.....	.....	1	.....	4	.....	.....	.....	1	.....

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE XII.—Annual earnings of chief breadwinner in 1917, by color and nativity of mother.

Annual earnings of chief breadwinner in 1917.	Children 2 to 7 years of age.							
	Total.		Color and nativity of mother.					
			Native white.		Foreign-born white.		Negro.	
	Num-ber.	Per cent dis-tribution.	Num-ber.	Per cent dis-tribution.	Num-ber.	Per cent dis-tribution.	Num-ber.	Per cent dis-tribution.
Total.....	6,015	100.0	1,843	100.0	3,934	100.0	232	100.0
Under \$850.....	851	14.1	122	6.6	673	17.1	56	24.1
\$850 to \$1,049.....	923	15.3	135	7.3	729	18.5	59	25.4
\$1,050 to \$1,249.....	1,065	17.7	239	13.0	775	19.7	51	22.0
\$1,250 to \$1,449.....	843	14.0	255	13.8	570	14.5	18	7.8
\$1,450 to \$1,849.....	1,041	17.3	474	25.7	548	13.9	18	7.8
\$1,850 to \$2,249.....	378	6.3	201	10.9	174	4.4	1	0.4
\$2,250 and over.....	441	7.3	280	15.2	156	4.0	3	1.3
No chief breadwinner and no earnings.....	129	2.1	31	1.7	92	2.3	6	2.6
Not reported.....	344	5.7	106	5.8	217	5.5	20	8.6

<sup>1</sup> Per cent distribution not shown where base is less than 100.

GENERAL TABLE XIII.—*Major cause of nonemployment of wage earners in 1917, by duration of chief breadwinner's nonemployment.*

Major cause of non-employment of wage earner in 1917.	Children 2 to 7 years of age.												
	Total.		Chief breadwinner steadily employed.	Chief breadwinner not steadily employed.								No chief breadwinner.	Not reported.
	Number.	Per cent distribution. <sup>1</sup>		Duration of nonemployment.									
				Less than 1 month.	1 month, less than 2.	2 months, less than 3.	3 months, less than 4.	4 months, less than 5.	5 months, less than 6.	6 months, less than 9.	9 months and over.		
Total.....	6, 015	100. 0	2, 283	1, 466	675	380	256	105	68	96	59	72	555
Not reported whether wage earners.....	118	2. 0	1	3							27	72	15
Nonwage earners.....	756	12. 6	575	36	25	10	26	3	8	25	3		45
Wage earners.....	5, 141	100. 0	1, 707	1, 427	650	370	230	102	60	71	29		495
No nonemployment reported.	1, 802	35. 1	1, 707										95
Major cause of nonemployment.....	3, 339	64. 9		1, 427	650	370	230	102	60	71	29		400
Shutdown.....	465	9. 0		150	96	64	39	15	13	10			78
No job.....	328	6. 4		212	57	21	16	1	8	1	2		10
Sickness.....	1, 439	28. 0		710	315	164	91	47	20	26	12		54
Strike or lock-out.....	12	0. 2		7	3	1			1				
Accident.....	118	2. 3		35	34	22	12	5		8	1		1
Not reported <sup>2</sup> .....	977	19. 0		313	145	98	72	34	18	26	14		257
Steel industry.....	3, 654	100. 0	1, 090	1, 125	484	275	151	59	46	59	17		348
No nonemployment reported.	1, 150	31. 5	1, 090										60
Major cause of nonemployment.....	2, 504	68. 5		1, 125	484	275	151	59	46	59	17		288
Shutdown.....	430	11. 8		137	89	59	37	12	13	10			73
No job.....	201	5. 5		137	31	15	7	1	4	1			5
Sickness.....	1, 185	32. 4		585	264	135	79	28	18	24	8		44
Strike or lock-out.....	4	0. 1		2		1			1				
Accident.....	87	2. 4		25	23	16	8	5		8	1		1
Not reported <sup>2</sup> .....	597	16. 3		239	77	49	20	13	10	16	8		165
Other industry.....	1, 478	100. 0	617	301	166	95	79	42	14	12	12		140
No nonemployment reported.	650	44. 0	617										33
Major cause of nonemployment.....	828	56. 0		301	166	95	79	42	14	12	12		107
Shutdown.....	34	2. 3		13	7	5	2	2					5
No job.....	126	8. 5		75	26	6	9		4		2		4
Sickness.....	254	17. 2		125	51	29	12	19	2	2	4		10
Strike or lock-out.....	8	0. 5		5	3								
Accident.....	31	2. 1		10	11	6	4						
Not reported <sup>2</sup> .....	375	25. 4		73	68	49	52	21	8	10	6		88
Industry not reported.	9			1				1					7
No nonemployment reported.	2												2
Major cause of nonemployment.....	7			1				1					5
Shutdown.....	1							1					
No job.....	1												1
Not reported <sup>2</sup> .....	5			1									4

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Includes children whose breadwinners had died or deserted.

GENERAL TABLE XIV.—*Age of mother at beginning work away from home, by nativity of mother.*

Age of mother at beginning work away from home.	Families with children 2 to 7 years of age.								Not re- ported. <sup>1</sup>
	Total.		Nativity of mother.						
			Native white.		Foreign-born white.		Negro.		
	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	Num- ber.	Per cent distrib- ution.	
Total.....	3, 991	100. 0	1, 356	100. 0	2, 457	100. 0	172	100. 0	6
Never employed away from home.....	1, 291	32. 3	376	27. 7	860	35. 0	54	31. 4	1
Employed away from home..	2, 676	67. 1	973	71. 8	1, 589	64. 7	114	66. 3	.....
Under 12 years.....	201	5. 0	16	1. 2	173	7. 0	12	7. 0	.....
12 years, under 14.....	272	6. 8	86	6. 3	168	6. 8	18	10. 5	.....
14 years, under 16.....	562	14. 1	237	17. 5	307	12. 5	18	10. 5	.....
16 years, under 20.....	1, 099	27. 5	484	35. 7	590	24. 0	25	14. 5	.....
20 years and over.....	481	12. 1	140	10. 3	309	12. 6	32	18. 6	.....
Age not reported.....	61	1. 5	10	0. 7	42	1. 7	9	5. 2	.....
Employment not reported...	24	0. 6	7	0. 5	8	0. 3	4	2. 3	5

<sup>1</sup> Per cent distribution not shown where base is less than 100.GENERAL TABLE XV.—*Employment of mother in 1917, by color and nationality of mother.*

Color and nationality of mother.	Families with children 2 to 7 years of age.				
	Total.	Mother gainfully employed, 1917.		Mother not employed, 1917.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>
Total.....	3, 991	1, 521	38. 1	2, 470	61. 9
Native white.....	1, 356	425	31. 3	931	68. 7
Foreign-born white.....	2, 457	1, 005	40. 9	1, 452	59. 1
Polish.....	567	229	40. 4	338	59. 6
Serbo-Croatian.....	350	140	40. 0	210	60. 0
Slovak.....	344	120	34. 9	224	65. 1
Magyar.....	180	61	33. 9	119	66. 1
Italian.....	154	65	42. 2	89	57. 8
German.....	150	55	36. 7	95	63. 3
Lithuanian.....	137	81	59. 1	56	40. 9
All other.....	575	254	44. 2	321	55. 8
Negro.....	172	89	51. 7	83	48. 3
Not reported.....	6	2	.....	4	.....

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE XVI.—Annual earnings of mother in 1917 and color and nativity of mother, by annual earnings of chief breadwinner.

Annual earnings of mother in 1917, and color and nativity of mother.		Children 2 to 7 years of age.																			
		Annual earnings of chief breadwinner in 1917.																			
		Total chil- dren.		Under \$50.		\$50 to \$1,049.		\$1,050 to \$1,249.		\$1,250 to \$1,449.		\$1,450 to \$1,849.		\$1,850 to \$2,249.		\$2,250 and over.		No chief breadwinner or no earnings.		Earnings not reported.	
Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>	Num- ber.	Per cent distri- bu- tion. <sup>1</sup>
Total.....		6,015	100.0	851	100.0	923	100.0	1,065	100.0	843	100.0	1,041	100.0	378	100.0	441	100.0	129	100.0	344	100.0
Not employed.....		3,757	62.5	507	59.6	543	58.8	633	59.4	551	65.4	701	67.3	263	69.6	318	72.1	27	20.9	214	62.2
Employed.....		2,258	37.5	344	40.4	380	41.2	432	40.6	292	34.6	340	32.7	115	30.4	123	27.9	102	79.1	130	37.8
Earnings:																					
Under \$50.....		317	5.3	66	7.8	50	5.4	66	6.2	43	5.1	49	4.7	10	2.6	13	2.9	9	7.0	11	3.2
\$50 to \$99.....		302	5.0	35	4.1	77	8.3	63	5.9	36	4.3	46	4.4	14	3.7	11	2.5	10	7.8	10	2.9
\$100 to \$149.....		234	3.9	38	4.5	27	2.9	40	3.8	36	4.3	54	5.2	21	5.6	11	2.5	4	3.1	3	0.9
\$150 to \$199.....		181	3.0	36	4.2	35	3.8	31	2.9	12	1.4	32	3.1	13	3.4	13	2.9	3	2.3	6	1.7
\$200 and over.....		859	14.3	127	14.9	145	15.7	182	17.1	122	14.5	120	11.5	44	11.6	32	7.3	58	45.0	29	8.4
Not reported.....		365	6.1	42	4.9	46	5.0	50	4.7	43	5.1	39	3.7	13	3.4	43	9.8	18	14.0	71	20.6
Native white mothers.....		1,843	100.0	122	100.0	135	100.0	239	100.0	255	100.0	474	100.0	201	100.0	280	100.0	31	100.0	106	100.0
Not employed.....		1,284	69.7	92	75.4	92	68.1	149	62.3	177	69.4	320	67.5	144	71.6	221	78.9	10	79.9	79	74.5
Employed.....		1,559	30.3	30	24.6	43	31.9	90	37.7	78	30.6	154	32.5	57	28.4	59	21.1	21	21.1	27	25.5
Earnings:																					
Under \$50.....		86	4.7	6	4.9	11	8.1	18	7.5	6	2.4	27	5.7	6	3.0	9	3.2	1	3.2	2	1.9
\$50 to \$99.....		75	4.1	2	1.6	7	5.2	14	5.9	13	5.1	19	4.0	8	4.0	8	2.9	1	2.9	3	2.8
\$100 to \$149.....		74	4.0	3	2.5	5	3.7	9	3.8	12	4.7	32	6.8	7	3.5	6	2.1	2	2.1	3	2.8
\$150 to \$199.....		43	2.3	1	0.8	3	2.2	8	3.3	2	0.8	14	3.0	5	2.5	8	2.9	2	2.9	8	7.5
\$200 and over.....		212	11.5	13	10.7	15	11.1	30	12.6	37	14.5	53	11.2	24	11.9	17	6.1	15	15.0	14	13.2
Not reported.....		69	3.7	5	4.1	2	1.5	11	4.6	8	3.1	9	1.9	7	3.5	11	3.9	2	2.9	8	7.5
Foreign-born white mothers.....		3,934	100.0	673	100.0	729	100.0	775	100.0	570	100.0	548	100.0	174	100.0	156	100.0	92	100.0	217	100.0
Not employed.....		2,358	59.9	377	56.0	426	58.4	462	59.6	368	64.6	369	67.3	118	67.8	95	60.9	17	17.0	126	58.1
Employed.....		1,576	40.1	296	44.0	303	41.6	313	40.4	202	35.4	179	32.7	56	32.2	61	39.1	75	73.0	91	41.9



# CHILDREN OF PRESCHOOL AGE, GARY, IND.

Children 2 to 7 years of age.

Caretaker of child during major separation. Total. <sup>1</sup>	Not separated from mother.		Separated from mother on account of her employment.										Period not reported.	
	Less than 1 year.		1 year, less than 2.		2 years, less than 3.		3 years, less than 4.		4 years and over.					
	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>
Total.....	5,543	92.2	219	3.6	91	1.5	67	1.1	32	0.5	44	0.7	18	0.3
No separation.....	5,543	100.0												
Cared for during separation.....	471		219	46.5	91	19.3	67	14.2	32	6.8	44	9.3	18	3.8
At home.....	260		115	44.2	56	21.5	41	15.8	14	5.4	27	10.4	7	2.7
By child.....	92		40		21		11		6		10		4	
By adult.....	162		69	42.6	35	21.6	30	18.5	8	4.9	17	10.5	3	1.9
Caretaker not reported.....	6		6											
Away from home.....	198		99	50.0	35	17.7	25	12.6	18	9.1	14	7.1	7	3.5
By adult.....	138		77	55.8	20	14.5	14	10.1	15	10.9	9	6.5	3	2.2
By institution.....	60		22		15		11		3		5		4	
Not reported whether at home or away.....	13		5				1				3		4	

<sup>1</sup> Includes those separated only during the mother's working hours and those away from their mothers both day and night.

<sup>2</sup> Not shown where base is less than 100.

<sup>3</sup> Includes 1 child for whom separation from mother was not reported.

GENERAL TABLE XVIII.—*Separation of child from mother on account of mother's employment, by annual earnings of chief breadwinner in 1917.*

Annual earnings of chief breadwinner in 1917.	Children 2 to 7 years of age.				
	Total.	Not separated from mother.		Separated from mother on account of her employment.	
		Number.	Per cent.	Number.	Per cent.
Total.....	16,015	5,543	92.2	471	7.8
Under \$1,050.....	1,774	1,585	89.3	189	10.7
\$1,050 to \$1,849.....	2,949	2,773	94.0	176	6.0
\$1,850 and over.....	819	802	97.9	17	2.1
No chief breadwinner and no earnings.....	129	79	61.2	50	38.8
Not reported.....	1344	304	88.4	39	11.3

<sup>1</sup> Includes 1 child for whom separation from mother was not reported.

# CHILDREN OF PRESCHOOL AGE, GARY, IND.

Children 2 to 7 years of age.

Annual earnings of chief breadwinner in 1917 and color and nativity of mother.	Total.	No household help.				Usual household help in 1917.										No household duties.		Not reported as to household help.	
		Adult hired full time.		Adult hired part time.		Adult not hired.		Laundry work only.		Child or children only.		Kind not reported.		Num. ber.	Per cent. <sup>1</sup>				
		Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>	Num. ber.	Per cent. <sup>1</sup>						
Total.....	6,015	3,583	59.6	196	3.3	190	3.2	682	11.3	804	13.4	506	8.4	12	0.2	33	0.5	9	0.
Under \$1,050.....	1,774	1,236	69.7	12	7	7	4	191	10.8	130	7.3	191	10.8	1	1	5	3	1	1
\$1,050 to \$1,849.....	2,949	1,827	62.0	47	1.6	81	2.7	346	11.7	387	13.1	240	8.1	8	3	8	3	5	2
\$1,850 and over.....	2,949	1,827	62.0	108	13.2	86	10.5	72	8.8	220	26.9	30	3.7	1	1	10	1.2	.....	.....
No chief breadwinner and no earnings.....	129	62	48.1	2	1.6	.....	.....	26	20.2	12	9.3	17	13.2	2	6	9	7.0	1	8
Not reported.....	344	166	48.3	27	7.8	16	4.7	47	13.7	55	16.0	28	8.1	2	6	1	3	2	8
Native white mothers.....	1,843	843	45.7	124	6.7	120	6.5	228	12.4	416	22.6	77	4.2	6	3	24	1.3	5	3
Under \$1,050.....	1,257	1,038	82.6	6	2.3	3	1.2	31	12.1	28	10.9	18	7.0	.....	.....	2	8	1	4
\$1,050 to \$1,849.....	988	484	50.0	23	2.4	50	5.2	140	14.5	218	22.5	39	4.0	6	6	6	6	2	4
\$1,850 and over.....	481	140	29.1	75	15.6	59	12.3	43	8.9	143	29.7	12	2.5	.....	.....	9	1.9	2	2
No chief breadwinner and no earnings.....	31	10	32.3	2	17.0	.....	.....	7	6.6	2	23.6	3	4.7	.....	.....	7	.....	2	1.9
Not reported.....	106	41	38.7	18	17.0	8	7.5	7	6.6	25	23.6	5	4.7	.....	.....	.....	.....	4	1
Foreign-born mothers.....	3,934	2,693	68.2	71	1.8	62	1.6	408	10.4	368	9.4	405	10.3	5	1	8	2	.....	.....
Under \$1,050.....	1,402	980	69.9	5	1.5	4	1.3	152	10.8	100	7.1	137	11.2	1	1	3	2	.....	.....
\$1,050 to \$1,849.....	1,893	1,305	68.9	24	1.3	25	1.3	178	9.4	160	8.5	194	10.2	2	1	2	1	3	2
\$1,850 and over.....	1,330	150	45.5	33	10.0	25	7.6	29	8.8	74	22.4	18	5.5	.....	.....	1	3	.....	.....
No chief breadwinner and no earnings.....	92	50	54.4	.....	.....	.....	.....	19	.....	7	.....	13	.....	.....	.....	2	.....	1	.....
Not reported.....	217	118	54.4	9	4.1	8	3.7	30	13.8	27	12.4	23	10.6	2	9	.....	.....	.....	.....
Negro mothers.....	232	136	58.6	1	.....	6	2.6	45	19.4	18	7.8	24	10.3	1	4	1	.....	.....	.....
Under \$1,050.....	115	88	76.5	1	.....	.....	.....	8	7.0	2	1.7	16	13.9	.....	.....	.....	.....	.....	.....
\$1,050 to \$1,849.....	87	38	43.7	.....	.....	6	.....	27	.....	9	.....	7	.....	1	.....	.....	.....	.....	.....
\$1,850 and over.....	4	1	25.0	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
No chief breadwinner and no earnings.....	6	2	33.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not reported.....	20	7	35.0	.....	.....	.....	.....	10	.....	3	.....	1	.....	.....	.....	1	.....	.....	.....
Under \$1,050.....	6	1	16.7	.....	.....	2	.....	10	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$1,050 to \$1,849.....	1	1	100.0	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$1,850 and over.....	4	1	25.0	.....	.....	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not reported.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.



Children 2 to 7 years of age.

Color and nationality of mother.	Number of baths per week in winter.										Number of baths per week in summer.																				
	Less than 1.			1.			2, less than 7.			7 and over.			Not reported.			Less than 1.			1.			2, less than 7.			7 and over.			Not reported.			
	Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		Num-ber.	Per-cent.		
Total.....	6,015	361	6.0	3,690	61.3	1,800	29.9	149	2.5	15	0.2	21	0.3	1,069	17.8	2,698	44.9	2,211	36.8	16	0.3										
Native white.....	1,843	57	3.1	932	50.6	782	42.4	69	3.7	3	.2			152	8.2	781	42.4	904	49.1	6	.3										
Foreign-born white.....	3,934	297	7.5	2,671	67.9	889	22.6	66	1.7	11	.3	21	.5	908	23.1	1,790	45.5	1,205	30.6	10	.3										
Polish.....	923	38	4.1	728	78.9	145	15.7	10	1.1	2	.2	3	.3	247	26.8	373	40.4	297	32.2	3	.3										
Serbo-Croatian.....	537	52	8.9	343	58.4	173	29.8	17	2.9			4	.7	141	24.0	274	46.7	167	28.4	1	.2										
Slovak.....	546	34	6.2	425	77.8	81	14.8	5	1.0	1	.2	2	.4	120	22.0	258	47.3	163	29.9	3	.5										
Magyar.....	231	9	3.1	208	71.5	71	24.4	3	1.0					75	25.8	132	45.4	84	28.9												
Italian.....	265	90	34.0	129	48.7	42	15.8	2	.8	2	.8	5	1.9	74	27.9	142	53.6	44	16.6												
German.....	228	21	9.2	149	65.4	54	23.7	3	1.3					61	26.8	108	47.4	59	25.9												
Lithuanian.....	225	10	4.4	160	71.1	53	23.6			2	.9	3	1.3	67	26.8	123	54.7	32	14.2												
All other.....	839	43	4.9	529	60.9	208	30.8	26	3.0	3	.3	4	.5	123	14.2	380	43.7	359	41.3	3	.3										
Negro.....	232	7	3.0	84	36.2	126	54.3	14	6.0	1	.4			7	3.0	126	54.3	99	42.7												
Not reported.....	6			3		3								2		1		3													

1 Not shown where base is less than 100.

GENERAL TABLE XXI.—*Number of hours rest at night and prevalence of daytime nap, by age of child and color and nativity of mother.*

Age of child and color and nativity of mother.	Children 2 to 7 years of age.											
	Total.	Having no usual daytime nap.										
		Total.		Number hours rest at night.								
		Number.	Per cent. <sup>1</sup>	Less than 8.	8, less than 9.	9, less than 10.	10, less than 11.	11, less than 12.	12, less than 13.	13, less than 14.	14 and over.	Not reported.
Total.....	6,015	4,767	79.3	12	61	442	1,319	1,696	903	217	48	69
2 years but under 3.....	1,079	524	48.6	1	8	40	122	177	115	47	6	8
3 years but under 4.....	1,437	1,043	72.6	3	13	90	247	348	237	71	15	19
4 years but under 5.....	1,233	1,031	83.6	4	9	77	265	390	206	49	16	15
5 years but under 6.....	1,100	1,032	93.8	2	13	86	294	401	194	22	8	12
6 years but under 7.....	1,008	984	97.6	2	14	133	334	332	133	22	3	11
7 years but under 8.....	156	151	96.8		4	16	55	48	18	6		4
Age not reported.....	2	2					2					
Native white mothers.....	1,843	1,234	67.0	1	13	101	316	470	254	55	18	6
2 years but under 3.....	339	85	25.1		3	4	15	24	22	14	3	
3 years but under 4.....	392	211	53.8			17	46	69	60	16	3	
4 years but under 5.....	399	285	71.4		2	17	61	121	66	12	6	
5 years but under 6.....	338	289	85.5	1	3	21	72	122	60	4	3	3
6 years but under 7.....	329	319	97.0		4	39	105	118	42	7	3	1
7 years but under 8.....	46	45			1	3	17	16	4	2		2
Foreign-born mothers.....	3,934	3,371	85.7	8	46	317	962	1,180	620	150	28	60
2 years but under 3.....	693	424	61.2	1	5	36	102	149	91	30	2	8
3 years but under 4.....	992	799	80.5	2	12	70	193	271	170	52	12	17
4 years but under 5.....	796	718	90.2	3	7	56	199	259	134	35	10	15
5 years but under 6.....	715	702	98.2	1	9	58	214	264	128	16	4	8
6 years but under 7.....	633	624	98.6	1	10	85	215	206	83	14		10
7 years but under 8.....	103	102	99.0		3	12	37	31	14	3		2
Age not reported.....	2	2					2					
Negro mothers.....	232	159	68.5	3	2	24	41	45	28	11	2	3
2 years but under 3.....	46	15					5	4	2	3	1	
3 years but under 4.....	52	32		1	1	3	8	8	7	2		2
4 years but under 5.....	36	28		1		4	5	10	6	2		
5 years but under 6.....	46	40			1	7	8	15	5	2	1	1
6 years but under 7.....	45	40		1		9	14	7	8	1		
7 years but under 8.....	7	4				1	1	1		1		
Nativity of mother not reported.....	6	3						1	1	1		
2 years but under 3.....	1											
3 years but under 4.....	1	1								1		
4 years but under 5.....	2											
5 years but under 6.....	1	1							1			
6 years but under 7.....	1	1						1				

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE XXI.—*Number of hours rest at night and prevalence of daytime nap, by age of child and color and nativity of mother—Concluded.*

Age of child and color and nativity of mother.	Children 2 to 7 years of age.																
	Having usual daytime nap.											Not reported as to daytime nap.					
	Total.		Number hours rest at night.										Total.		Number hours rest at night.		
	Number.	Per cent.	Less than 8.	8, less than 9.	9, less than 10.	10, less than 11.	11, less than 12.	12, less than 13.	13, less than 14.	14 and over.	Not reported.	Number.	Per cent. <sup>1</sup>	11, less than 12.	12, less than 13.	Not reported.	
Total.....	1,221	20.3	4	32	147	350	422	198	47	12	9	27	0.4	1	2	24	
2 years but under 3.....	552	51.2	2	18	63	157	180	97	26	6	3	3	.3		2	1	
3 years but under 4.....	391	27.2	1	7	55	105	143	60	12	4	4	3	.2			3	
4 years but under 5.....	193	15.7	1	6	17	61	67	31	7	1	2	9	.7	1		8	
5 years but under 6.....	61	5.5			6	22	23	9	1			7	.6			7	
6 years but under 7.....	20	2.0		1	5	3	8	1	1	1		4	.4			4	
7 years but under 8.....	4	2.6			1	2	1					1	.6			1	
Age not reported.....																	
Native white mothers.....	594	32.2	1	15	57	169	210	112	23	5	2	15	.8	1	1	13	
2 years but under 3.....	253	74.6		8	27	69	79	54	11	3	2	1	.3		1		
3 years but under 4.....	178	45.4		4	19	49	68	31	6	1		3	.8			3	
4 years but under 5.....	108	27.1	1	2	7	32	38	21	6	1		6	1.5	1		5	
5 years but under 6.....	45	13.3			2	19	18	6				4	1.2			4	
6 years but under 7.....	9	2.7		1	2		6					1	.3			1	
7 years but under 8.....	1						1										
Foreign-born mothers.....	556	14.1	3	17	36	161	186	76	18	4	5	7	.2		1	6	
2 years but under 3.....	268	38.7	2	10	35	78	93	37	12	1		1	1				
3 years but under 4.....	193	19.5	1	3	36	51	65	26	4	3	4						
4 years but under 5.....	75	9.4		4	10	25	24	10	1		1	3	.4			3	
5 years but under 6.....	12	1.7			3	3	3	2	1			1	1			1	
6 years but under 7.....	7	1.1			2	3	1	1				2	.3			2	
7 years but under 8.....	1	1.0				1											
Age not reported.....																	
Negro mothers.....	68	29.3			4	18	25	10	6	3	2	5	2.2			5	
2 years but under 3.....	30				1	9	8	6	3	2	1	1				1	
3 years but under 4.....	20					5	10	3	2								
4 years but under 5.....	8					3	4				1						
5 years but under 6.....	4				1		2	1				2				2	
6 years but under 7.....	4				1		1		1	1		1				1	
7 years but under 8.....	2				1	1						1				1	
Nativity of mother not reported.....	3					2	1										
2 years but under 3.....	1					1											
3 years but under 4.....																	
4 years but under 5.....	2					1	1										
5 years but under 6.....																	
6 years but under 7.....																	

<sup>1</sup> Not shown where base is less than 100.

GENERAL TABLE XXII.—Hour and regularity of retiring, by color and nationality of mother.

Children 2 to 7 years of age.																			
Hour and regularity of retiring.																			
Total.				No regular hour.		Regular hour.												Regularity not reported.	
						Total.		Before 7.		Between 7 and 8.		Between 8 and 9.		Between 9 and 10.		10 and later.			
Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
6,015	2,162	35.9	3,704	61.6	61	1.0	517	8.6	1,521	25.3	1,319	21.9	283	4.7	3	(*)	149	2.5	
1,843	305	16.5	1,469	79.7	26	1.4	268	14.5	646	35.1	429	23.3	98	5.3	2	0.1	69	3.7	
3,934	1,773	45.1	2,087	53.1	33	.8	221	5.6	814	20.7	846	21.5	172	4.4	1	.....	74	1.9	
923	493	53.4	424	45.9	6	.7	27	2.9	162	17.6	180	19.5	49	5.3		.....	6	2.7	
587	271	46.2	300	51.1	6	1.0	31	5.3	113	19.3	134	22.8	16	2.7		.....	16	2.7	
546	282	51.6	262	48.0	2	.4	17	3.1	104	19.0	119	21.8	20	3.7		.....	2	4.4	
291	114	39.2	174	59.8	4	1.4	17	5.8	60	20.6	79	27.1	14	4.8		.....	3	1.0	
265	139	52.5	117	44.2	2	.8	16	6.0	48	18.1	34	12.8	17	6.4		.....	9	3.4	
228	55	24.1	161	70.6	1	.4	25	11.0	60	26.3	65	28.5	10	4.4		.....	12	5.3	
225	95	42.2	125	55.6		.....	12	5.3	42	18.7	53	23.6	18	8.0		.....	5	2.2	
869	324	37.3	524	60.3	12	1.4	76	8.7	225	25.9	182	20.9	28	3.2	1	.1	21	2.4	
232	80	34.5	146	62.9	2	.9	28	12.1	61	26.3	42	18.1	13	5.6		.....	6	2.6	
6	4	.....	2	.....		.....		.....			2	.....				.....			
Total.....																			
Native white.....																			
Foreign-born white.....																			
Polish.....																			
Serbo-Croatian.....																			
Slovak.....																			
Magyar.....																			
Italian.....																			
German.....																			
Lithuanian.....																			
All other.....																			
Negro.....																			
Not reported.....																			

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Less than one-tenth of 1 per cent.

Hour and regularity of retiring.

Annual earnings of chief breadwinner in 1917.																			
Total.			Regular hour.																
No regular hour.			Total.		Before 7.		Between 7 and 8.		Between 8 and 9.		Between 9 and 10.		10 and later.		Not reported.				
Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Regularity not reported.			
Total.....			6,015	35.9	3,704	61.6	61	1.0	517	8.6	1,521	25.3	1,319	21.9	283	4.7	3 (1)	149	2.5
Under \$850.....			851	405	434	51.0	13	1.5	50	5.9	169	19.9	166	19.5	36	4.2	12	1.4	2.5
\$850 to \$1,049.....			923	403	504	54.6	5	.5	69	7.5	209	22.6	186	20.2	35	3.8	16	1.7	1.7
\$1,050 to \$1,249.....			1,065	427	622	58.4	9	.8	72	6.8	258	24.2	239	22.4	44	4.1	16	1.5	1.5
\$1,250 to \$1,449.....			1,043	289	527	62.5	3	.4	66	7.8	233	27.6	166	19.7	59	7.0	27	3.2	2.5
\$1,450 to \$1,649.....			1,041	301	714	68.6	8	.8	96	9.2	282	27.1	273	26.2	53	5.1	2	0.2	2.5
\$1,650 to \$2,249.....			378	59	306	81.0	6	1.6	52	13.8	125	33.1	103	27.2	20	5.3	13	3.4	3.4
\$2,250 and over.....			441	91	333	75.5	9	2.0	73	16.6	139	31.5	97	22.0	14	3.2	17	3.9	3.9
No chief breadwinner and no earnings			129	58	69	53.5	2	1.6	8	6.2	31	24.0	26	20.2	2	1.6	2	1.6	1.6
Earnings not reported.....			344	129	195	56.7	6	1.7	31	9.0	75	21.8	63	18.3	20	5.8	20	5.8	5.8

1 Less than one-tenth of 1 per cent.

GENERAL TABLE XXIV.—*Hour and regularity of rising, by age of child.*

Children 2 to 7 years of age.																	
Hour and regularity of rising.																	
Age of child.	Total.	No regular hour.		Total.		Before 6.		Between 6 and 7.		Between 7 and 8.		8 and later.		Not reported.		Regularity not reported.	
		Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
Total.....	6,015	2,309	38.4	3,546	59.0	49	0.8	532	9.7	1,690	27.9	1,232	20.5	3	(*)	160	2.7
2 years, under 3.....	1,079	438	40.6	601	55.7	12	1.1	122	11.3	269	24.9	198	18.4			40	3.7
3 years, under 4.....	1,437	597	41.5	808	56.2	13	.9	135	9.4	355	24.7	305	21.2			32	2.2
4 years, under 5.....	1,233	499	40.5	700	56.8	10	.8	94	7.6	326	26.4	267	21.7	3	0.2	34	2.8
5 years, under 6.....	1,100	391	35.5	690	61.8	7	.6	97	8.8	315	28.6	261	23.7			29	2.6
6 years, under 7.....	1,008	347	34.4	639	63.4	5	.5	112	11.1	349	34.6	173	17.2			22	2.2
7 years, under 8.....	156	35	22.4	118	75.6	2	1.3	22	14.1	66	42.3	28	17.9			3	1.9
Not reported.....	2																

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Less than one-tenth of 1 per cent.

Hour and regularity of rising.

Color and nationality of mother.	Total.		No regular hour.		Regular hour.										Regularity not reported.	
					Total.		Before 6.		Between 6 and 7.		Between 7 and 8.		8 and later.			
	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent. <sup>1</sup>	Num-ber.	Per cent.	Num-ber.	Per cent.
Total.....	6, 015	2, 309	38.4	59.0	49	0.8	582	9.7	1, 680	27.9	1, 232	20.5	3	( <sup>2</sup> )	160	2.7
Native white.....	1, 843	362	19.6	75.6	14	.8	219	11.9	709	38.5	450	24.4	2	0.1	87	4.7
Foreign-born white.....	3, 923	1, 833	46.6	51.7	32	.8	337	8.6	920	23.4	743	18.9	1	( <sup>2</sup> )	68	1.7
Polish.....	587	269	45.8	44.6	3	.3	40	8.7	179	19.4	150	16.3	.....	.....	8	.9
Serbo-Croatian.....	546	287	52.6	51.3	8	1.4	39	6.8	142	24.2	111	18.9	.....	.....	17	2.9
Slovak.....	291	142	48.8	46.2	1	.2	23	7.1	112	20.5	100	18.3	.....	.....	7	1.3
Magyar.....	265	131	49.4	50.2	8	2.7	23	7.9	69	23.7	46	15.8	.....	.....	3	1.0
Italian.....	228	52	22.8	48.7	.....	.....	41	15.5	57	21.5	31	11.7	.....	.....	5	1.9
German.....	225	107	47.6	75.0	1	.4	18	7.9	80	35.1	72	31.6	.....	.....	5	2.2
Lithuanian.....	869	342	39.4	50.2	.....	.....	14	6.2	45	20.0	54	24.0	.....	.....	5	2.2
All other.....	232	112	48.3	58.6	11	1.3	82	9.4	236	27.2	179	20.6	1	.1	18	2.1
Negro.....	232	112	48.3	49.6	3	1.3	26	11.2	49	21.1	37	15.9	.....	.....	5	2.2
Not reported.....	6	2	.....	.....	.....	.....	.....	.....	2	.....	2	.....	.....	.....	.....	.....

<sup>1</sup> Not shown where base is less than 100.

Less than one-tenth of 1 per cent.

GENERAL TABLE XXVI.—*The wearing of night clothing, by color and nationality of mother.*

Color and nationality of mother.	Children 2 to 7 years of age.				
	Total.	Wearing no night clothing.	Wearing as night clothing.		Not reported.
			Clothing worn during day.	No clothing worn during day.	
Total.....	6,015	14	2,058	3,926	17
Native white.....	1,843	.....	376	1,460	7
Foreign-born white.....	3,934	13	1,651	2,264	6
Polish.....	923	2	393	527	1
Serbo-Croatian.....	587	.....	239	347	1
Slovak.....	546	.....	238	308	.....
Magyar.....	291	2	116	173	.....
Italian.....	265	5	171	87	2
German.....	228	.....	70	157	1
Lithuanian.....	225	.....	142	82	1
All other.....	869	4	282	583	.....
Negro.....	232	1	31	196	4
Not reported.....	6	.....	.....	6	.....



Number of hours rest at night.

Number of additional occupants of child's bedroom.		Less than 8.		8, less than 9.		9, less than 10.		10, less than 11.		11, less than 12.		12, less than 13.		13, less than 14.		14 and over.		Not reported.		
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent. <sup>1</sup>	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent. <sup>1</sup>	
Total.....		6,015	16	0.3	93	1.5	589	9.8	1,669	27.7	2,119	35.5	1,103	18.3	264	4.4	60	1.0	102	1.7
None.....		261	1	.4	2	.8	17	6.5	73	28.0	80	30.7	63	24.1	18	6.9	2	.8	5	1.9
1.....		1,415	3	.2	14	1.0	125	8.8	389	27.5	551	38.9	245	17.3	64	4.5	12	.8	12	1.8
2.....		1,800	6	.3	35	1.9	184	10.2	504	28.0	624	34.7	318	17.7	85	4.7	22	1.2	22	1.2
3.....		1,232	4	.3	28	2.3	115	9.3	355	28.8	408	33.1	249	20.2	43	3.5	12	1.0	18	1.5
4.....		808	2	.4	8	1.0	85	10.5	247	30.6	278	34.4	143	17.7	30	3.7	4	.5	13	1.6
5 and over.....		469	2	.4	6	1.3	63	13.4	100	21.3	175	37.3	82	17.5	24	5.1	8	1.7	9	1.9
Not reported.....		30							1		3		3						23	

<sup>1</sup> Not shown where base is less than 100.



**Children 2 to 7 years of age.**

[illegible]

GENERAL TABLE XXX.—*Number of visits to dentist, by age of child and annual earnings of chief breadwinner in 1917.*

Age of child and annual earnings of chief breadwinner in 1917.	Children 2 to 7 years of age.						
	Total.	Who had paid no visits to dentist.		Who had paid one or more visits to dentist.		Not reported as to visits.	
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent.
Total.....	6,015	5,290	87.9	721	12.0	4	0.1
2 years, under 3.....	1,079	1,061	98.3	16	1.5	2	.2
3 years, under 4.....	1,437	1,355	94.3	81	5.6	1	.1
4 years, under 5.....	1,233	1,085	88.0	148	12.0		
5 years, under 6.....	1,100	899	81.7	201	18.3		
6 years, under 7.....	1,008	762	75.6	245	24.3	1	.1
7 years, under 8.....	156	126	80.8	30	19.2		
Not reported.....	2	2					
Under \$1,050.....	1,774	1,640	92.4	132	7.4	2	.1
2 years, under 3.....	334	329	98.5	3	.9	2	.6
3 years, under 4.....	431	412	95.6	19	4.4		
4 years, under 5.....	352	326	92.6	26	7.4		
5 years, under 6.....	319	280	87.8	39	12.2		
6 years, under 7.....	279	239	85.7	40	14.3		
7 years, under 8.....	59	54		5			
\$1,050 to \$1,849.....	2,949	2,605	88.3	342	11.6	2	.1
2 years, under 3.....	541	533	98.5	8	1.5		
3 years, under 4.....	717	682	95.1	34	4.7	1	.1
4 years, under 5.....	609	543	89.2	66	10.8		
5 years, under 6.....	529	430	81.3	99	18.7		
6 years, under 7.....	488	365	74.8	122	25.0	1	.2
7 years, under 8.....	63	50		13			
Not reported.....	2	2					
\$1,850 and over.....	819	642	78.4	177	21.6		
2 years, under 3.....	136	132	97.1	4	2.9		
3 years, under 4.....	190	166	87.4	24	12.6		
4 years, under 5.....	176	138	78.4	38	21.6		
5 years, under 6.....	158	114	72.2	44	27.8		
6 years, under 7.....	142	82	57.7	60	42.3		
7 years, under 8.....	17	10		7			
No chief breadwinner and no earnings.....	129	107	82.9	22	17.1		
2 years, under 3.....	17	16		1			
3 years, under 4.....	26	25		1			
4 years, under 5.....	23	18		5			
5 years, under 6.....	29	23		6			
6 years, under 7.....	30	23		7			
7 years, under 8.....	4	2		2			
Earnings not reported.....	344	296	86.0	48	14.0		
2 years, under 3.....	51	51					
3 years, under 4.....	73	70		3			
4 years, under 5.....	73	60		13			
5 years, under 6.....	65	52		13			
6 years, under 7.....	69	53		16			
7 years, under 8.....	13	10		3			

<sup>1</sup> Not shown where base is less than 100.

## INDEX.

Adopted children, status of, in determining family limits, 12.

Age:

- Amount of milk as beverage by, 65-66.
- Amount of sleep received by, 43.
- Grade of diet by, 58.
- Number of meals daily by, 91.
- Suitability of foods to, 40, 89-96.
- Use of tea or coffee by, 70.

Alleys, inspection of, 5, 123.

Ambridge subdivision, housing conditions in, 17, 22-23.

Anemia, by grade of diet, 109-110, 115.

Bacteriological tests, provision for, 5.

Bath accommodation, houses having, 25.

By nativity of mother, 26.

Baths, frequency of, 125.

By nativity of mother, 40-41, 127.

Bedfellows, 49-50.

Bedroom:

Number of occupants—

By earnings of chief breadwinner, 48-49, 128.

By nativity of mother, 47, 127.

Ventilation, 46-47, 125, 127.

By nationality of mother, 47.

Boarding children, status of, in determining family limits, 12.

Bony defects of rachitic origin, by grade of diet, 106, 115.

Breakfast, inadequate, 126.

By earnings of chief breadwinner, 97.

By nationality of mother, 96-97, 99, 115, 126.

Building:

By land company, 4, 5, 6, 13, 17, 18.

By private enterprise, 5, 18-19.

Commissioner of, duties, 15.

Ordinances regarding, 5, 15, 16.

Regulations concerning, 5, 6, 15-17.

Buildings, department of, 15.

Canvass made in order to determine number of preschool children, 2.

Care and hygiene, 40-51.

According to income, 127-128.

According to nativity of mother, 126-127.

*See also under following items:*

Baths, 40-41.

Care during mother's employment, 38, 125.

Dental care, 50-51.

Recreation, 41-42.

Sleep, conditions pertaining to, 43-50.

Carious teeth, by grade of diet, 104-105, 115.

Cereals:

Use in diet, 78-79, 114, 126.

By earnings of chief breadwinner, 78-79.

By nationality and color of mother, 78.

Chief breadwinner:

Definition, 30.

Earnings. *See* Earnings.

City health officer, part-time employment of, 5, 123.

City ordinances. *See* Ordinances.

City planning, 3-4.

City regulations. *See* Regulations.

Civic and social factors:

Garbage, collection and disposal, 5, 123.

Health protection, 5, 6.

Housing. *See* Housing.

Milk supply, 5, 6.

Playgrounds, 5, 41-42, 123

*See also* Recreation.

Provision and action regarding, 4-6.

Sanitation. *See* Sanitation.

Sewer system, 4, 123.

Water supply, 4, 6, 19, 23-24, 25, 123.

Welfare work, 5, 6, 123.

Clark subdivision, housing conditions in, 18, 22, 23, 24, 26.

Coffee or tea:

Use of—

By earnings of chief breadwinner, 70-72.

By nationality and color of mother, 72-74.

Number of times daily, 68.

By age of child, 70.

By nationality and color of mother, 72-74.

Relation to use of milk, 69-70, 114.

Community, influence of schools upon, 8.

Community conditions surrounding child life, 3-6, 123.

Composition of family, 11.

Conditions affecting child welfare, 3-51.

Child care and hygiene, 40-51.

Community, 3-6, 123.

Economic conditions, 30-39.

Home and family, 7-14.

Housing, 15-29.

*See also* Housing.

Contagious disease, control of, 5.

Customs regarding certain dietary practices, 89-100.

Dental care, 50-51.

Dental caries, by grade of diet, 104-105.

Description of Gary, 3-6.

Diet:

Adequacy of, 96-99, 113, 115, 126, 127.

By nationality of mother, 96-99, 115.

Grading according to, 54-56.

*See also* Diet, grade of.

Eating between meals, 92-96, 115, 126.

By earnings of chief breadwinner, 94-95.

By nationality of mother, 93-94.

Educational need regarding, 59.

## Diet—Continued.

## Grade of—

By age, 58.

By district of residence, 61-62.

By income, 59-60, 128.

By nationality, 60-61.

Weight in relation to, 126.

Weight in relation to height by, 101-104.

Grading according to adequacy, 54-56.

Items lacking, 85-88, 114.

By income, 86, 87, 120-121.

By nationality, 87-88, 117.

## Meals—

Breakfast, adequacy, 96-97, 99, 115, 126.

Lunch, adequacy, 98-99, 115, 126.

Number daily, by age of child, 91.

Regularity, by nationality, 92.

Supper, type, 90-91.

Method of study, 53-56.

Grading of diets, 54-56.

Limitations of material, 53-54.

Securing of records, 53-54.

Nutrition as related to, 101, 102, 103, 104, 106.

Physical condition in relation to, 101-112, 115-116.

Suitability of foods to age of children, 40, 89-96.

By nationality of mother, 90.

Summary showing deviation from accepted standards, 99-100.

## Type of—

By earnings of chief breadwinner, 59-60, 86, 87, 118, 119, 120-121, 128.

Disease, contagious, control of, 5.

## District of residence:

Diet grades, distribution of children in, by, 61-62.

Distribution of children by, 13.

Milk used as beverage by, 67-68.

Number of children in family by, 14.

Source of water supply by, 23-24.

Type of dwelling by, 20.

Duration and stability of family life, 11-12.

## Earnings:

## Chief breadwinner—

Care of child according to, 127-128.

Cereals, use of, by, 78-79.

Coffee, use of, by, 70-72.

Dental care in relation to, 51.

Diet in relation to, 59-60, 86, 87, 116, 118, 119, 120-121, 128.

Eggs, use of, by, 80.

Employment, type of, by, 34.

Employment of mother influenced by, 33, 38.

Fruits and vegetables, use of, by, 76.

Household help in relation to, 39, 128.

Literacy and ability to speak English in relation to earning capacity, 33.

Meals, adequacy of, by, 97.

Eating between, 94-95.

Meat, use of, by, 84-85.

Milk, as beverage, amount of, by, 66-67.

Nativity of mother according to, 33.

Number of persons in family by, 32.

Potatoes, use of, by, 77.

Retiring and rising, regularity, by, 45.

Supplementary income, 30, 33.

Ventilation of bedroom in relation to, 46.

## Earnings—Continued.

Mother, 38.

*See also* Employment of mother.

Economic conditions, 30-39, 125.

*See also* Earnings.

## Eggs:

Use in diet, 79-80, 114, 126.

By earnings of chief breadwinner, 80.

By nationality and color of mother, 79-80.

## Employment:

## Chief breadwinner—

Type of work and earnings, 34.

## Mother (gainful employment)—

At home, 30, 37, 125.

Away from home, 30, 36-37, 125.

Separation from child as result of, 38, 125, 127-128.

Earnings of father as related to, 33, 38.

## English:

## Ability to speak—

Father, 9, 124.

Mother, 9, 124.

By nationality, 9, 116, 118, 119.

Acquisition of, importance, 9, 33.

## Family:

Composition, 11.

Conditions, 7-14, 124-128.

Removals from city to city, 11-12, 124.

Size, by nativity of mother, 7, 48.

Family life, duration and stability of, 11-12.

## Fathers:

Ability to speak English, 9, 124.

Earnings. *See* Earnings of chief breadwinner.

Literacy, 10, 124.

Fire limits, ordinance concerning, 16.

## First Subdivision:

Development of, 6, 13, 17, 18.

Housing, 17, 22, 23.

Food supply, inspection of, 5.

Foods, specified, use of, 63-88.

Cereals, 77-79.

Coffee or tea, 68-74.

Eggs, 79-80.

Items lacking from diet, 85-88.

Meat, 81-85.

Milk, 63-68.

Vegetables and fruits, 74-77.

Potatoes (white), 76-77.

## Foreign born:

Diet of children, 60-61.

*See also under* Diet.

## Housing—

Conditions, 5, 13, 26.

Tenure, 21-22.

Literacy of parents, 10.

Population of, 7.

Residence of mother in United States, length of, 9-10.

Welfare work on South Side, 5, 6, 123.

*See also* Nationality of mother.

## Fruits and vegetables:

Use in diet, 74, 75-76, 114.

By earnings of chief breadwinner, 76-77.

By nationality and color, 75.

**Garbage, collection and disposal, 5, 123.****Gary:**

Area, 6.

Description, 3-6.

By district of residence, 13.

Growth, 4, 8.

Industries, 3, 4.

Number of children studied in, 2, 53.

Population of, 6.

Topography of, 3.

Glen Park subdivision, housing conditions, 18, 23, 26.

Grades of diet, 55-56.

*See also* Diet.**Health officer, city, part-time employment of, 5, 123.****Health protection, 5, 6.****Height, relation of weight to, by grade of diet, 101-104.****Home conditions, 7-14, 124-128.****Home ownership:**

By district of residence, 23.

By nativity and color, 21-22.

**Household:**

Size, by nativity of mother, 7, 48.

**Household help:**

Extent of, 39, 125, 127.

Income in relation to, 39, 128.

**Housing:****Congestion—**

Lot, 4, 16, 17, 18-19, 123.

Room, 16, 17, 27-29, 124, 126, 127, 128.

Fire protection, regulations concerning, 16.

Land company projects, 4, 5, 6, 13, 17, 18.

Law (State) relating to [passed 1913], 5, 16, 26.

One-family houses, 19, 42.

Private enterprise, 5, 18-19.

Privies, 19, 25, 26, 27.

Regulations, inadequacy of, 5, 15.

Rental and tenure, 21-23.

Sanitary conveniences, 18, 19, 23-27, 124.

Type of houses, 5, 17, 18-21.

By district of residence, 20, 22.

Ventilation, 16, 19, 20-21, 46-47, 124, 125, 127.

Water supply, 4, 6, 19, 23-25, 123.

**Hygiene and care, 40-51.**

Baths, 40-41.

Dental care, 50-51.

Recreation, 41-42.

Sleep, conditions pertaining to, 43-50.

**Immigrant laborers, housing, 5, 13.****Income. *See* Earnings.****Industries in Gary, 3, 4.****Infants born in 1916, number in family, by number of preschool children in family, 12-13.****Inspection:**

Alleys, 5, 123.

Housing, 5, 15, 16, 123.

Milk and food, 5.

Plumbing, 15.

Sanitation, 5, 6, 15, 123.

Water, 4, 6.

**Kirk subdivision, housing in, 17.****Laboratory, municipal, 5, 123.****Land company, development by, 4, 5, 6, 13, 17, 18.****Legislation, housing, 5, 15-17, 26.****Lincoln Park subdivision, housing conditions, 22, 23, 26.****Literacy:**

Father, 10, 124.

Mother, 10, 124.

By nationality, 10, 116, 118, 119.

**Lodgers:**

Family earnings supplemented by keeping, 30, 37, 38, 125.

Tendency to keep, by nativity and color of mother, 29.

Lot congestion, 4, 16, 17, 18-19, 123.

Lunch, inadequate, by nationality of mother, 98-99, 115, 126.

**Malnutrition:**

Physical defects in relation to, 106-107.

*See also* Diet: Nutrition as related to; Physical condition in relation to.**Meals:**

Adequacy, 96-99, 115.

Eating between, 92-96, 115, 126.

Amount and type of food by nationality of mother, 93-94.

By earnings of chief breadwinner, 94-95.

By nationality of mother, 94.

Number daily, 91.

Regularity, 40, 92, 115, 126.

Suitability of foods to age of child, 40, 89-96, 126.

*See also* Diet.**Meat, daily use:**

By amount of milk used as beverage, 81-82.

By grade of diet, 82-83.

By nationality and color of mother, 83-84.

By earnings of chief breadwinner, 84-85.

**Medical inspection of school children, 1, 6.***See also* Bureau Publication No. 111, Physical Status of Preschool Children, Gary, Ind**Method of procedure in study:**

Part I, 2.

Part II, 53-56.

Grading of diets, 54-56.

Limitations of material, 53-54.

Securing of records, 53-54.

**Milk:**

Amount used as beverage, 64, 113, 126.

By age of child, 65-66.

By district of residence, 67-68.

By earnings of chief breadwinner, 66-67.

By nationality and color of mother, 67.

Contrasted with consumption of meat, 81-82.

Contrasted with consumption of tea or coffee, 69-70, 114, 126.

Amount used in food, 64-65.

Minimum standard required, 64, 113.

Number of children receiving, 64, 113, 126.

Ordinance regarding, 5, 123.

Milk supply, inspection of, 5, 6.

Miller (town), annexation of, for recreational purposes, 4 (footnote), 123.

**Mothers:**

Ability to speak English, 9, 124.

By nationality, 9, 116, 118, 119.

Earnings, 38.

Employment (gainful)—

At home, 30, 37, 125.

Away from home, 30, 36-37, 125.

Separation from child as result of, 38, 125.

Literacy, 10, 124.

By items of diet, 116, 118, 119.

**Nationalities:**

- Non-English-speaking, 8.
- Predominating, 7.

**Nationality of mother, 7-10.**

- Ability to speak English, 9, 116, 118, 119.

**Diet—**

- Cereals, use of, 78, 117.
- Eggs, use of, 79-80, 117.
- Fruits and vegetables, use of, 75, 117.
- Grade, 60-61, 117.
- Meat, use of, 83-84, 117.
- Milk, use of, as beverage, 67, 117.
- Potatoes, use of, 77, 117.
- Rank, 116-119.
- Suitability of foods to age of child, 90.
- Tea or coffee, use of, 72-74, 117.

**Earnings of chief breadwinner, 118.****Literacy, 10, 118.****Meals—**

- Adequacy of, 96-99, 117.
- Eating between, 93-94, 117.
- Regularity of, 92, 117.

**Non-English-speaking nationalities, 8.****Residence in the United States, 9-10.****Ventilation of bedroom, 47.****Nativity of mother:**

- Baths, frequency of, 41.
- Earnings of chief breadwinner, 33.
- Home ownership, 21-22.
- Hour of retiring, 45.
- Room congestion, 29.
- Sanitary conveniences, 26.
- Sleep received, 43-44.
- Ventilation of bedroom, 46, 127.
- Water supply location, 25.

**Negroes:**

- Earnings of chief breadwinner, 33.
- Employment of mother in relation to, 38.
- Literacy, 10.
- Lodger keeping, extent of, 29.
- Number of persons per room, 29.
- Sanitary conveniences, 24, 25, 26.
- Separation of mother and child because of employment of mother away from home, 38.
- Tenure of home, 21, 22.
- Toilet facilities, 26, 27.

**Night clothing, 46.****Nonemployment of chief breadwinner, 35-36, 125.****Non-English-speaking nationalities, 8.****Nurse:**

- Employed by health department to visit contagious cases, 5, 123.
- Employed by police department for infant-welfare work, 5, 6, 123.

**Nutrition:**

- Diet as related to, 101, 102, 103, 104, 106.
- State of, as indicated by weight according to height, 101-104.
- Weight in relation to, 101.

**One-family houses:**

- Advantages, 19, 42.
- Description, 19.
- Disadvantages, 19.
- Law lacking with reference to, 5, 16-17.

**Ordinances:**

- Building, 5, 15, 16.
- Fire limits and building within them, 16.

**Ordinances—Continued.**

- Lots (residence), improvement in First Subdivision, 18.

- Milk and food, 5, 123.

- Plumbing, 15.

**Overcrowding:**

- Lot, 4, 16, 17, 18-19, 123.
- Room, 16, 17, 27-29, 124, 126, 127, 128.

**Ownership of homes:**

- By district of residence, 23.
- By nativity and color, 21-22.

**Physical condition:**

- Dietary findings in relation to, 101-112, 115.
- School standing in relation to, 1.

**Physical examinations:**

- Results, by grade of diet, 106, 126.
- See also* Bureau Publication No. 111. Physical Status of Preschool Children, Gary, Ind.

**Pine subdivision, housing in, 18.****Plan of city, 3-4.****Playgrounds, 41-42.**

- Municipal, 5, 41, 123.

- School, 5, 41, 123.

***See also* Recreation.****Play spaces, 6, 42.****Plumbing:**

- Ordinance regulating, 15.

**Population of Gary:**

- Foreign born, 7.
- Negro, 7.
- Total (1910, p. 21; 1917, p. 6.)

**Postural defects, by grade of diet, 106-107, 115.****Potatoes (white):**

- Use in diet, 76-77.
- By earnings of chief breadwinner, 77.
- By nationality, 77.

**Preschool children:**

- Distribution, by district of residence, 13-14.
- Number in study, 2.
- Per cent of families having specified number of, by nativity of mother, 7-8.
- Reasons for study of, 1-2.
- Private enterprise, housing by, 5, 18-19.
- Privies:
  - Number of children using, 25.
  - By district of residence, 26.
- Number of families using same accommodation, 19, 27.

**Reasons for study, 1-2.****Recreation:**

- Provisions for, 4 (footnote 1), 6, 123.
- Time spent out of doors, 41-42.
- See also* Playgrounds.

**Regulations:**

- Building, 5, 6, 15-17, 123.
- Controlling contagious disease, 5.
- Sanitation, 5, 6.

**Rental and tenure, 21-23.****Residence of foreign-born mothers in the United States, length of, 9-10.****Ridge Road subdivision, housing conditions in, 18, 23, 26.****Room congestion, 16, 17, 27-29, 124, 126, 127, 128.****Legislation concerning, 16, 17.**



**Sanitation:**

Conveniences, 19, 23-27, 124.

By district of residence, 18, 23-24, 26.

By nativity of mother, 25, 26.

Inspection, 5, 6.

Schedule used in study, 132-135.

**Schools:**

Dental inspection in, 50.

Influence upon community life, 8.

Medical inspection in, 1, 6.

Night classes for adults, 8.

Separation of mother and child on account of mother's employment, 88.

Sewer system, 4, 123.

**Sleep:**

Amount received—

By age, 43.

By nativity of mother, 44.

By number of additional occupants of bed, 50.

By number of additional occupants of bedroom, 48-49.

Conditions affecting, 46-50.

Night clothing, 46, 125, 127.

Retiring and rising, regularity of, 44-45, 125, 127.

Ventilation in bedroom, 46-47, 125.

**South Side subdivision:**

Housing conditions in, 18, 23, 26.

Nurse (city) employed in, 5, 6, 123.

Welfare station established in, 6.

Stability of family life, 11-12.

**Streets:**

Cleaning of, 5, 123.

Paving of, 4, 17, 18.

Plan of, 4.

**Summaries:**

Customs regarding dietary practices, 99-100.

Dietary study, 113-121.

General, 123-128.

Relationship between diet and physical condition, 112.

**Tea or coffee:**

Use of—

By earnings of chief breadwinner, 70-72.

By nationality and color of mother, 72-74.

Contrasted with consumption of milk, 69-70, 114, 126.

**Tea or coffee—Continued.**

Use of—Continued.

Number of times daily, 68.

By age of child, 70.

By nationality and color of mother, 72-74.

Teeth, carious, by grade of diet, 104-105.

**Tenements:**

Law pertaining to, 16, 17.

See also Housing.

Tenure and rental, 21-23.

Toilet facilities, 19, 25, 26, 124.

By nativity of mother, 26.

Law requiring, 16, 26.

Location and type of toilet, by number of families using, 26-27.

**Tolleston subdivision:**

Housing conditions in, 18, 23, 26.

Incorporation of, 5.

Tonsils, defective, by grade of diet, 107-108, 115.

Topography of Gary, 3.

Unemployment of chief breadwinner, 35, 36.

**Vegetables and fruits:**

Potatoes (white), 76-77, 114, 126.

Use in diet, 74-76, 114.

By earnings of chief breadwinners, 76-77.

By nationality and color, 75.

**Ventilation:**

Extent of—

By type of dwelling, 19, 20-21, 124.

In bedroom, 46-47, 125, 127.

Ordinance regarding, 16.

Water-closets. See Sanitary conveniences.

**Water supply:**

Analysis, 4, 6.

Establishment of, 4.

Location, by nativity of mother, 25.

Protection of, 6, 123.

Source, by district of residence, 23-24.

Source other than city system, 19, 23-24.

**Weight:**

Diet in relation to, 126.

Height, by grade of diet, in relation to, 101-104.

Nutrition in relation to, 101.

Welfare work (South Side), 5, 6, 123.

West Gary subdivision, housing conditions in, 13, 18, 22, 23, 24.

"Winged shoulders," malnutrition in relation to, 106.



22,773  
158  
4p

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

CHILD LABOR  
ON  
MARYLAND TRUCK FARMS

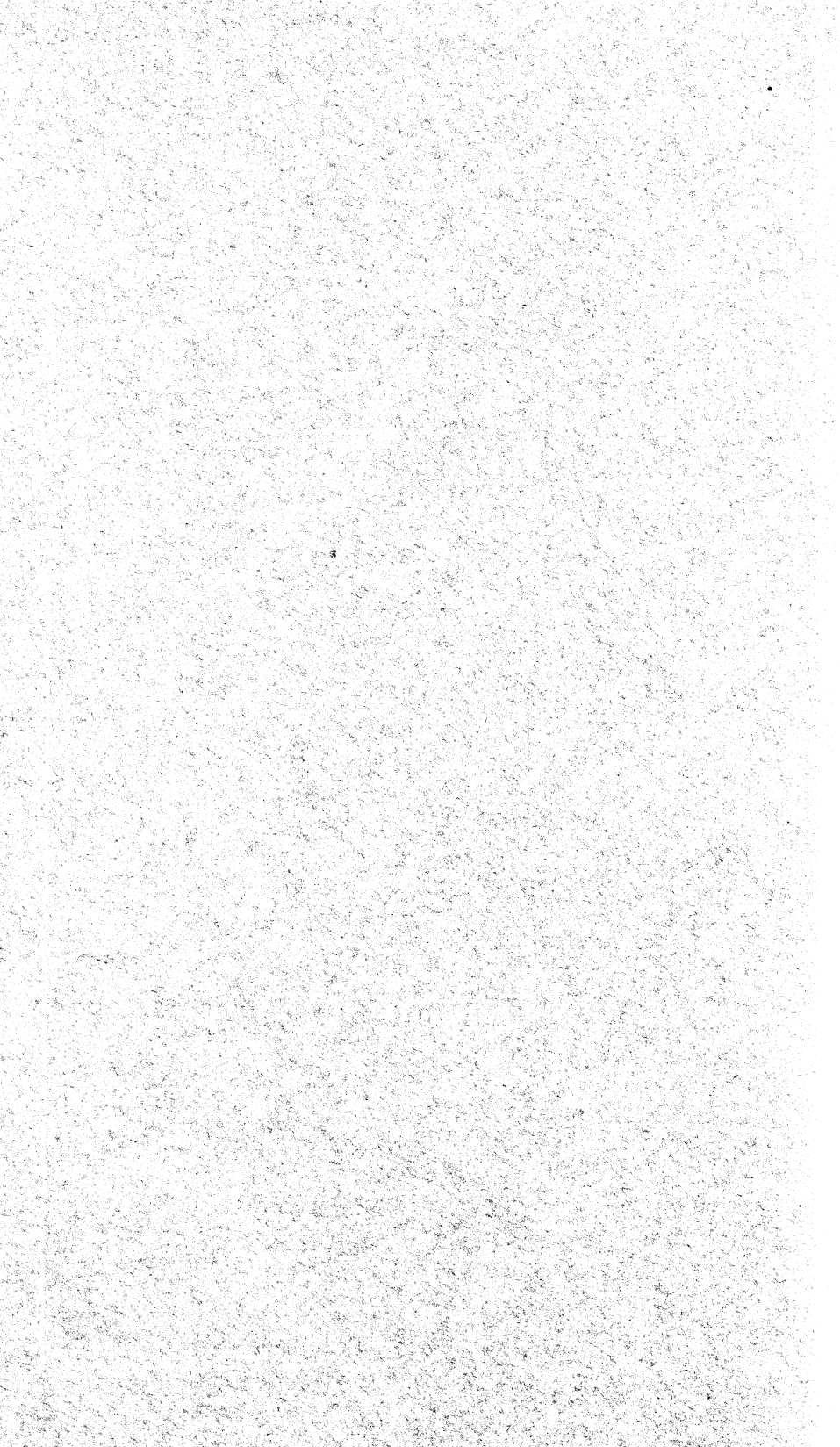
BY

ALICE CHANNING

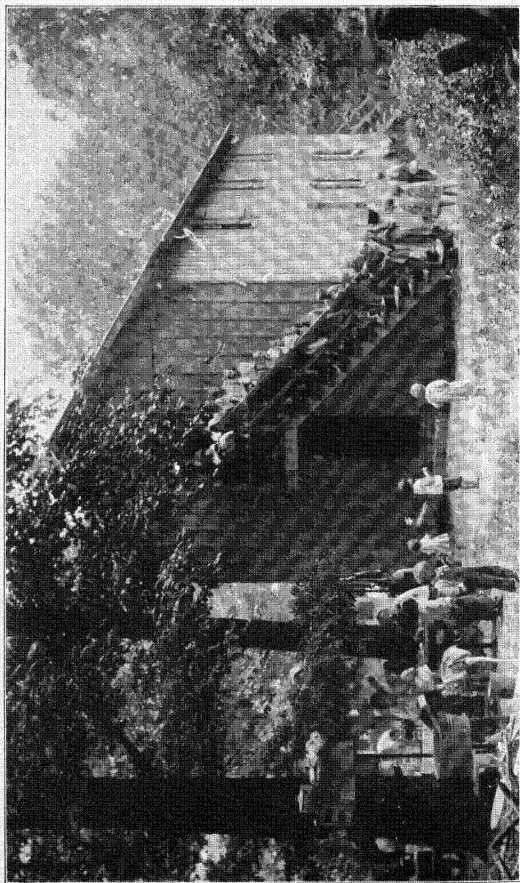
Bureau Publication No. 123



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923







SHANTY IN SEASONAL WORKERS' CAMP, HOUSING 95 PERSONS.

[Dimensions, approximately 60 by 20 by 16 feet.]

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

CHILD LABOR  
ON  
MARYLAND TRUCK FARMS

BY  
ALICE CHANNING



Bureau Publication No. 123



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT  
IS NOT POSSIBLE TO DISTRIBUTE THIS BULLETIN IN  
LARGE QUANTITIES. ADDITIONAL COPIES MAY BE PRO-  
CURED FROM THE SUPERINTENDENT OF DOCUMENTS,  
GOVERNMENT PRINTING OFFICE, WASHINGTON, D. C.,  
AT 10 CENTS PER COPY.



## CONTENTS.

---

	Page.
Letter of transmittal.....	v
Introduction.....	1-3
Truck farming in Maryland.....	1
Scope and method of study.....	2
Resident child workers on truck farms in Anne Arundel County.....	5-21
The workers' families.....	6
Children's work on truck farms.....	7-17
Kinds of work.....	7
The length of the working-day.....	13
Duration of work.....	15
Earnings.....	16
Farm work and schooling.....	17
Migratory child workers in Anne Arundel County.....	23-34
The workers' families.....	24
Camp life.....	25
Children's work on truck farms.....	29
Schooling.....	32
Child workers on Eastern Shore truck farms.....	35-50
The workers' families.....	35
Children's work on truck farms.....	38-47
Kinds of work.....	38
The length of the working-day.....	44
Duration of work.....	46
Earnings.....	46
Farm work and schooling.....	47
Conclusion.....	51

## ILLUSTRATIONS.

---

	Facing page.
Shanty in seasonal workers' camp, housing 95 persons. (Dimensions, approximately 60 by 20 by 16 feet).....	i
Twelve-year-old boy carrying hamper of cucumbers.....	10
Picking eggplant.....	10
Family sections in seasonal workers' shack, separated only by boards 10 inches high.....	28
Interior of shanty curtained for privacy by the workers.....	28
Bean pickers.....	29
Privy with no pit, constructed by the workers.....	29
Turning sweet potato vines back into rows before cultivating.....	42
Cutting corn.....	42



## LETTER OF TRANSMITTAL.

---

UNITED STATES DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, D. C., May 12, 1923.*

SIR: I transmit herewith a report entitled "Child Labor on Maryland Truck Farms," the second of a series on rural child labor which the bureau is making.

The investigation was planned and carried on under the direction of Ellen Nathalie Matthews, director of the industrial division of the bureau. Viola I. Paradise was in immediate charge of the field work in Anne Arundel County and Ethel M. Springer and Mary E. Skinner on the Eastern Shore. The report was written by Alice Channing.

The Children's Bureau is indebted to State, county, and local officials, especially school authorities and agricultural agents, for their cooperation. Special acknowledgments are due Mr. S. W. Bomberger, assistant director, cooperative extension work in agriculture and home economics, Maryland State University, and others in this department.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*



# CHILD LABOR ON MARYLAND TRUCK FARMS.

---

## INTRODUCTION.

The following study<sup>1</sup> of children who work on truck farms in Maryland was made in Anne Arundel County near Baltimore, and in Wicomico, Somerset, and Worcester Counties, which lie in that section of the State known as the Peninsula or Eastern Shore.

### TRUCK FARMING IN MARYLAND.

Truck farming in the United States had not developed to any extent before 1890, but with improvement in the transportation of perishable products the industry has developed rapidly throughout the country in the last 30 years.<sup>2</sup> The Gulf States and California, known as the "winter gardens of the north," lead in the production of winter vegetables; Maryland and near-by States send their produce to northern cities in the spring and early summer months; later in the season the farms of northern States supply both northern and southern markets.

On account of their accessibility to large city markets sections of the States of Maryland and Virginia and parts of New Jersey and Delaware were among the first in the country to develop "trucking." The development in Maryland, on the eastern and western shores of Chesapeake Bay, is due to the good transportation facilities by rail and water, to the equable climate, and to the light sandy soil, which when fertilized is well adapted to the growth of early vegetables. In Somerset, Wicomico, and Worcester Counties on the eastern shore of the bay and in Anne Arundel County on the western shore the acreage planted in truck was in 1920, according to the United States census figures, from 13 to 17 per cent of the improved farm land, which may be compared with a truck acreage of 6 per cent of the improved farm land in the whole State. In Anne Arundel County the trucking section is concentrated in a small area south of Baltimore, general farm crops and tobacco being raised in the rest of the

---

<sup>1</sup> This study is one of a series being made by the Children's Bureau which deals with the problem of rural child labor. The following reports in this series have been published or are in press: Child Labor and the Work of Mothers in the Beet Fields of Colorado and Michigan, Publication No. 115; Child Welfare in Cotton-Growing Areas of Texas. Studies similar to that made in Maryland have recently been completed in the "trucking" areas of New Jersey and Virginia.

<sup>2</sup> Development and Localization of Truck Crops in the United States. Separate from Yearbook of the U. S. Department of Agriculture, 1916, No. 702. Washington, 1917.

county. On the Peninsula the trucking areas are more widely distributed; the more important are near Salisbury in Wicomico County, near Princess Anne and Marion in Somerset County, and near Berlin and Snow Hill in Worcester County. In Anne Arundel County a great variety of vegetables and small fruits is grown; on the Eastern Shore strawberries and Irish and sweet potatoes are the most important truck crops.

On account of the intensive nature of truck growing the farms are small, as a rule, and much hand labor is used. Hand labor in harvesting perishable crops is essential; beans, strawberries, tomatoes, and melons must be hand picked. Even where machines are used to dig potatoes the latter must be picked up by hand, and though green peas are sometimes threshed by machine when sold to canneries, they must be picked by hand for the market. The picking of most crops is simple and can be done by children. The large truck farmers of Anne Arundel County import Polish women and children from Baltimore for picking; on the Eastern Shore local labor is generally employed, though some negro labor is imported. The owners of the larger farms in both sections employ laborers or have tenants living on their farms; on the small farms the farmer and his wife and children do most of the work.

The only regulation of the work of children on farms in Maryland is the indirect restriction imposed by the State compulsory education law,<sup>3</sup> since the child-labor law, except possibly as regards employment during school hours of children required to attend school, applies only to a specific list of occupations, which does not include agricultural pursuits.

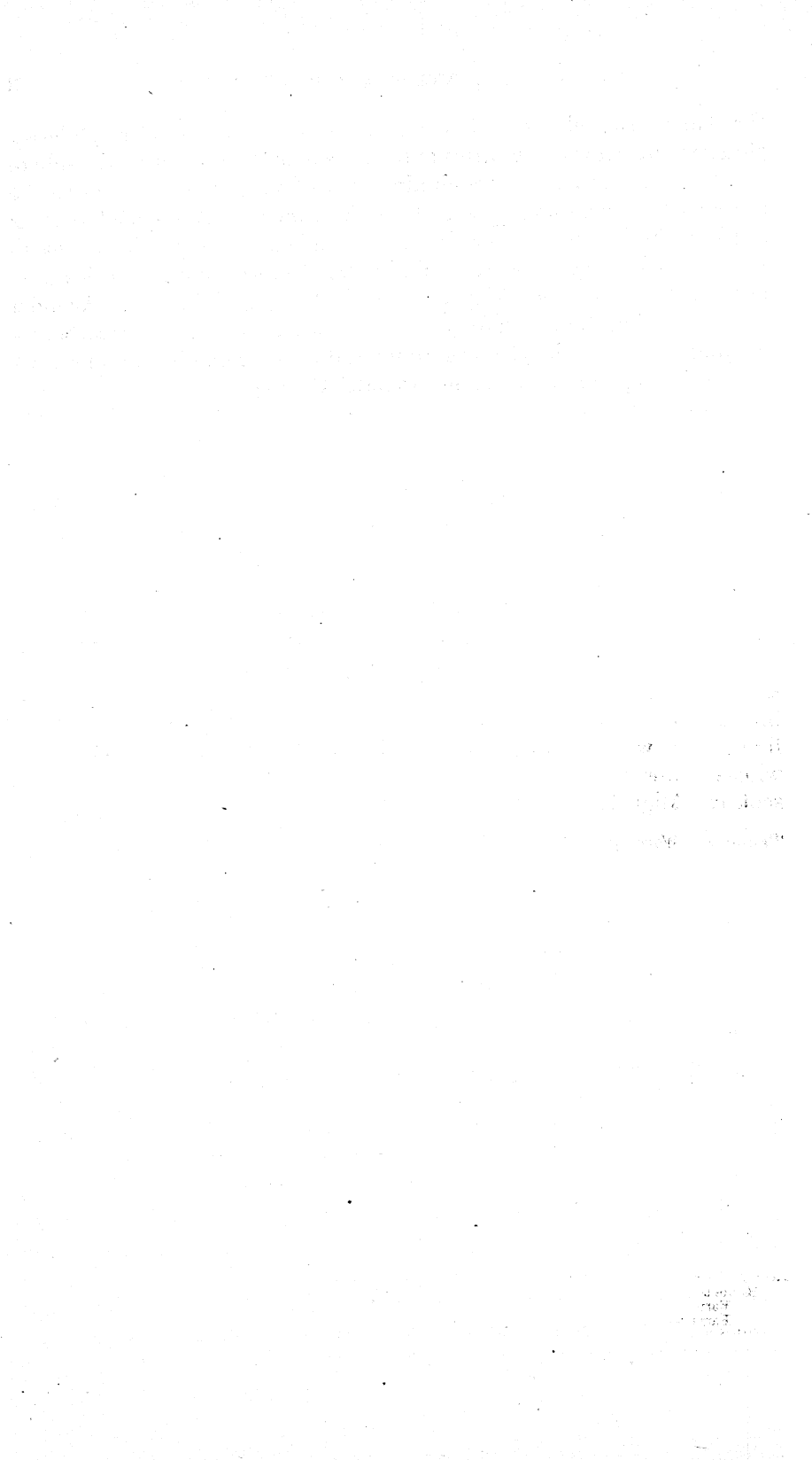
#### SCOPE AND METHOD OF STUDY.

The purpose of the survey was to study the work of children on truck farms, and the areas chosen for intensive study were localities in which the principal truck crops are raised. The areas were selected after consultation with county agricultural agents and school officials, and, for purposes of convenience, were usually coextensive with the school districts. In the Peninsula counties the names and addresses of all children under 16 years of age enrolled in the schools of the selected districts were secured from the school records and their attendance records copied; in Anne Arundel County school records were secured only for children enrolled in the schools who reported that they had worked on a farm during the year preceding the inquiry. The families of these children were then visited and detailed information secured concerning all of them who had worked on a truck farm at any time during the preceding 12 months. In

---

<sup>3</sup> See p. 17.

the Anne Arundel area a house-to-house canvass was also made for children who worked on farms and whose names were not on the school record. In this way many children were found who belonged to the families of migratory workers from Baltimore. The school records of these children were later obtained from Baltimore public and parochial schools. The survey made in the Eastern Shore counties during the latter part of May and June, 1921, and in Anne Arundel County during June and July, 1921, covered part of the strawberry-picking season on the Eastern Shore and parts of the bean and strawberry-picking seasons in Anne Arundel County.





## RESIDENT CHILD WORKERS ON TRUCK FARMS IN ANNE ARUNDEL COUNTY.

The area in Anne Arundel County chosen for study is a small part of the county adjacent to Baltimore in which the truck farms of the county are concentrated. A large percentage of the farm land under cultivation in this area is given up to truck, general crops being seldom grown. While some of the truck farms in this area are comparatively large—from 200 to 300 acres—the majority are smaller, farms of from 50 to 100 acres predominating. It is customary for children of owners of small farms, both white and negro, to help both with the general farm work and in the harvesting season. Children of the larger landholders, however, do not as a rule work on the farms. On the larger truck farms hired negro laborers, resident in the area, do the general farm work and white laborers imported from Baltimore do the seasonal work.

Of the 808 white and negro children who were interviewed because they had done farm work during the preceding year, about one-third were children of farm owners and tenants, one-third were children who were hired by the day as laborers and who lived in the locality, and the remaining one-third were children in migratory families coming in for seasonal work. (Table 1.) These migratory children lived and worked under such different conditions from children whose homes were in the area that they are discussed in a separate section—*Migratory Child Workers in Anne Arundel County*, page 23.

TABLE 1.—*Working status of children in families interviewed, by sex and race; Anne Arundel County.*

Working status of child.	Children under 16 years of age.					
	Total.		White.		Negro.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	808	100.0	480	100.0	328	100.0
Resident laborer.....	540	66.8	218	45.4	322	98.2
Home farm.....	286	35.4	187	39.0	99	30.2
Farm owned.....	255	31.6	166	34.6	89	27.1
Farm rented.....	31	3.8	21	4.4	10	3.0
Other farm.....	254	31.4	31	6.5	223	68.0
Migratory laborer.....	268	33.2	262	54.6	6	1.8
Boys.....	415	100.0	254	100.0	161	100.0
Resident laborer.....	279	67.2	118	46.5	161	100.0
Home farm.....	154	37.1	102	40.2	52	32.3
Farm owned.....	143	34.5	95	37.4	48	29.8
Farm rented.....	11	2.7	7	2.8	4	2.5
Other farm.....	125	30.1	16	6.3	109	67.7
Migratory laborer.....	186	32.8	136	53.5	.....	.....
Girls.....	293	100.0	226	100.0	167	100.0
Resident laborer.....	261	66.4	100	44.2	161	96.4
Home farm.....	122	33.4	85	37.6	47	28.1
Farm owned.....	112	28.5	71	31.4	41	24.6
Farm rented.....	20	5.1	14	6.2	6	3.6
Other farm.....	129	32.8	15	6.6	114	68.2
Migratory laborer.....	132	33.6	126	55.8	6	3.6

## THE WORKERS' FAMILIES.

Of the 540 children who lived in the area and worked on farms, 322, or three-fifths, were negro and 218 were white. The majority of the white children were farmers' children, 76 per cent being children of farm owners and 10 per cent those of tenants. About one-half—36 out of 73—of the white farm owners whose children worked were foreign born, chiefly Polish and German. Situated near a large city, the area has been much modified in population by recent immigrations. The families of the foreign born were less prosperous than the native white farmers whose children worked. Although most of them could speak English, many were illiterate, one or both parents in 13 of the 36 families being unable to read and write in any language—about the same proportion of illiteracy as that reported by the negro parents. Only 14 per cent of the resident white children included in the study were hired laborers. These included only one family of children whose parents were of foreign birth.

Most of the 322 resident negro children, on the other hand, were hired by the day, less than one-third being the children of owners or tenants. (Table 1.) Many child workers in the families of negro farm operators worked also as hired hands on other than the home farm, a practice which was not customary among white farmers' children. The farms of negro farm owners were smaller than those of either native or foreign-born white farmers, averaging about 20 acres, as compared with an average of between 50 and 100 acres for white farm owners. The fathers of the negro children working as hired laborers were either farm laborers or laborers on the roads, or worked at the near-by military camps or on the Baltimore docks.

The differences in financial status among the white families and the uniformly poor economic condition of the negro families whose children did farm work are indicated by the types of houses and the localities in which they lived as well as by the size of the farms. The homes of the white families were usually in a thickly settled farming district where nearly all the land was under cultivation, but the homes of the negro families were for the most part in a region where waste lands, swamps, and woodlands were more generally seen than tilled fields. A few white families lived in large houses with modern conveniences, a few in tumble-down two-room shacks, but the majority occupied houses of from four to six rooms which had, however, the usual outside privy and no running water. Negro families, whether they lived on small farms or in villages, usually lived in two-storied, unpainted cabins of three or four rooms. Such cabins were not always provided with even an outside privy, and the water supply was secured from shallow wells or springs and brooks.

Overcrowding occurred among both white and negro families. Fourteen per cent of the 95 white families and 32 per cent of the 151 negro families reported two or more persons per room. (Table 2.) Of the 13 white families who reported overcrowding, 8 were foreign born.

TABLE 2.—Average number of persons per room in resident families, by race; Anne Arundel County.

Average number of persons per room.	White families.		Negro families.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	95	100.0	151	100.0
Less than 1.....	7	7.4	16	10.6
1, less than 2.....	75	78.9	86	57.0
2, less than 3.....	10	10.5	37	24.5
3, less than 5.....	3	3.2	10	6.6
5, less than 7.....			1	.7
Not reported.....			1	.7

#### CHILDREN'S WORK ON TRUCK FARMS.

Approximately one-half of the 218 white and 322 negro children whose homes were in this area and who worked on farms were girls. Of these children, both boys and girls, 8.3 per cent had not reached their eighth and 28.5 per cent their tenth birthday. The ages at which they had begun farm work varied little with their nationality, but white boys started to work at earlier ages than white girls and hired children did not do field work at as early ages as farmers' children. Fifty-three of the 132 white and negro children who were 14 years of age or more when interviewed had started field work before they were 10 years of age and 84 before they were 12.

#### Kinds of work.

Children in this area work on almost all the crops that are raised there. The most important crops are green beans, green peas, tomatoes, strawberries, cantaloupes, and sweet potatoes, but sweet corn, cabbage, squash, green peppers, and eggplant are also grown. The work done by two boys, children of the owner of one of the larger truck farms, illustrates the kinds of crops and the variety of work on each crop. Both boys, 13 and 15 years of age, respectively, did the same work—plowed and harrowed; planted peas, beans, white potatoes, sweet corn, and peppers; transplanted cantaloupes and eggplants, and "dropped" sweet potatoes; thinned corn and eggplants; hoed or weeded all crops; sprayed potatoes and tomatoes; "bugged" potatoes; cut corn; picked strawberries, peas, beans, cantaloupes, eggplant, apples, and peaches; loaded wagons with vegetables, and sorted cantaloupes, sweet potatoes, eggplant, and peppers.

White children did a greater variety of work than negro children. The latter were usually hired only for picking strawberries, beans, peas, and tomatoes, though occasionally also for transplanting, hoeing, and weeding. Children under 10 years of age were usually employed only at picking and at the easier kinds of planting and transplanting, but older girls, in addition to such work, did hoeing and weeding, and boys 12 years of age and more, in addition to the easier kinds of work, also plowed, cultivated, and harrowed. (Tables 3, 4, and 5.)

Almost every child who does farm work in this locality helps at harvesting time. More than nine-tenths of the children included in the present study had picked green vegetables or strawberries or both, and over one-third had helped harvest Irish or sweet potatoes or both. Picking beans was reported by nearly two-thirds of the children, and picking strawberries, tomatoes, and peas was also reported by large numbers. (Table 4.) Fewer children, one-fifth and one-sixth, respectively, reported that they had picked cucumbers and melons.

TABLE 3.—*Ages of children in resident families doing each specified kind of field work, by race; Anne Arundel County.*

Kind of field work and race.	Children under 16 years of age doing each specified kind of field work.											
	Total.	Under 8 years.		8 years, under 10.		10 years, under 12.		12 years, under 14.		14 years, under 16.		Age not reported.
		Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	
White.....	218	19	8.7	44	20.2	48	22.0	59	27.1	48	22.0	.....
Plowing.....	49			1	.....	5	.....	17	.....	26	.....	.....
Harrowing.....	59			2	3.4	9	15.3	21	35.6	27	45.8	.....
Planting.....	93	4	4.3	12	12.9	18	19.4	29	31.2	30	32.3	.....
Cultivating.....	52			1	1.9	10	19.2	15	28.8	26	50.0	.....
Hoeing.....	97			9	9.3	18	18.6	33	34.0	37	38.1	.....
Weeding.....	119	7	5.9	16	13.4	24	20.2	43	36.1	29	24.4	.....
Spraying.....	33	1	.....	1	.....	5	.....	9	.....	17	.....	.....
Transplanting.....	169	10	5.9	27	16.0	37	21.9	51	30.2	44	26.0	.....
Thinning.....	57	2	3.5	5	8.8	13	22.8	18	31.6	19	33.3	.....
Picking.....	195	12	6.2	40	20.5	47	24.1	50	25.6	46	23.6	.....
Gathering potatoes.....	119	5	4.2	16	13.4	23	19.3	36	30.3	39	32.8	.....
Shucking, or husking corn.....	26					1	.....	2	.....	3	.....	.....
Saving fodder <sup>1</sup> .....	24			3	.....	4	.....	6	.....	11	.....	.....
Negro.....	322	26	8.1	65	20.2	77	23.9	67	20.8	84	26.1	3
Plowing.....	34			1	.....	1	.....	6	.....	25	.....	1
Harrowing.....	38			1	.....	2	.....	7	.....	27	.....	1
Planting.....	86	2	2.3	10	11.6	16	18.6	14	16.3	43	50.0	1
Cultivating.....	39			1	.....	1	.....	10	.....	27	.....	1
Hoeing.....	134	5	3.7	10	7.5	23	17.2	36	26.9	58	43.3	2
Weeding.....	87	3	3.4	7	8.0	23	26.4	17	19.5	35	40.2	2
Spraying.....	6			1	.....	1	.....	2	.....	2	.....	.....
Transplanting.....	160	9	5.6	22	13.8	31	19.4	38	23.8	57	35.6	3
Thinning.....	44			2	.....	9	.....	9	.....	23	.....	1
Picking.....	299	23	7.7	61	20.4	72	24.1	68	21.1	77	25.8	3
Gathering potatoes.....	70	5	7.1	5	7.1	13	18.6	13	18.6	33	47.1	1
Shucking, or husking corn.....	6			1	.....		.....	2	.....		.....	.....
Saving fodder <sup>1</sup> .....	12				.....	2	.....	3	.....	7	.....	.....

<sup>1</sup> Not shown where base is less than 50.

<sup>2</sup> Includes pitching and stacking.

Picking beans, peas, or strawberries requires little skill and can be done by children as soon as they are old enough to distinguish a mature pod or a ripe berry from a green one. In picking beans and peas the picker works in a half kneeling, half sitting position when the crop is good, turning back the vines with one hand and tossing the pods into the basket with the other, but when the crop is poor he is obliged to stand and bend over the low plants. The worker keeps the basket on the ground, placing it when full on his shoulder, carrying it to the end of the row, and emptying it into a sack. Sometimes the child has a burlap bag tied about his waist into which he puts the pods. Strawberry picking is very similar, for when the berries are plentiful the work can be done in a half sitting position, but when the crop is poor the worker must stand and bend over the plants. The amount of fatigue caused by picking strawberries or beans depends on how many hours it is necessary to work with back bent and knees cramped. Both white and negro children are employed on these crops, but relatively fewer negro children reported picking tomatoes, cucumbers, melons, and potatoes—crops which the farmers are usually able to get to market with the help of their wives or children or of their regular employees.

Tomato picking, which had been done by over two-thirds of the white children but by only one-third of the negro children, is harder work than picking beans or strawberries. The most difficult part of the work is not picking the fruit off the vines, though it is necessary to stand and stoop continuously, but carrying the hampers. A five-eighths bushel basket of tomatoes, the size commonly used, weighs, when full, about 40 pounds. Younger children are not always required, however, to "tote the baskets" but sometimes put the fruit they pick into the hampers of adults with whom they are working. Nearly two-fifths of the white children, few of whom were under 10 years of age, had picked cucumbers. The hampers of cucumbers, like baskets of tomatoes, are heavy to carry. (See illustration facing p. 10.) Melons are also heavy to handle and younger children can not be trusted to select ripe ones. One father said that for the latter reason he did not allow his two children 8 and 13 years of age to pick melons; he and his wife picked and the children "toted the baskets." Picking up potatoes was, like tomato and cucumber picking, reported by a larger proportion of white than negro children, by over one-half of the white as compared with one-fifth of the negro. The work is simple and can be done by children of all ages. They crawl along the rows on hands and knees, pick up the potatoes, knock or scratch off the dirt with their fingers, and throw the potatoes in piles or into baskets. Sweet potatoes are harvested like Irish potatoes, except that it is also necessary to break them from the vines. The hard work, loosening the potatoes

from the soil, is previously done by a plow or potato digger. Some of the older children, besides picking up the potatoes, carry the baskets to the edge of the field and dump the potatoes into barrels or into a wagon.

TABLE 4.—*Crops picked by children in resident families, by sex and race; Anne Arundel County.*

Crops picked, and sex.	Children under 16 years of age picking each specified crop.					
	Total.		White.		Negro.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	540	100.0	218	100.0	322	100.0
Strawberries.....	317	58.7	86	39.4	231	71.7
Beans.....	353	65.4	107	49.1	246	76.4
Peas.....	236	43.7	84	38.5	152	47.2
Tomatoes.....	255	47.2	149	68.3	106	32.9
Cucumbers.....	106	19.6	85	39.0	21	6.5
Melons.....	92	17.0	67	30.7	25	7.8
Blackberries, raspberries, and huckleberries.....	57	10.6	4	1.8	53	16.5
Other fruits and vegetables.....	92	17.0	63	28.9	29	9.0
Boys.....	279	100.0	118	100.0	161	100.0
Strawberries.....	138	49.5	38	32.2	100	62.1
Beans.....	161	57.7	55	46.6	106	65.8
Peas.....	102	36.6	39	33.1	63	39.1
Tomatoes.....	146	52.3	95	80.5	51	31.7
Cucumbers.....	67	24.0	56	47.5	11	6.8
Melons.....	69	24.7	52	44.1	17	10.6
Blackberries, raspberries, and huckleberries.....	31	11.1	4	3.4	27	16.8
Other fruits and vegetables.....	61	21.9	42	35.6	19	11.8
Girls.....	261	100.0	100	100.0	161	100.0
Strawberries.....	179	68.6	48	48.0	131	81.4
Beans.....	192	73.6	52	52.0	140	87.0
Peas.....	134	51.3	45	45.0	89	55.3
Tomatoes.....	109	41.8	54	54.0	55	34.2
Cucumbers.....	39	14.9	29	29.0	10	6.2
Melons.....	23	8.8	15	15.0	8	5.0
Blackberries, raspberries, and huckleberries.....	26	10.0	.....	.....	26	16.1
Other fruits and vegetables.....	31	11.9	21	21.0	10	6.2

Planting and transplanting various crops were reported by many of the children, especially by those who lived on farms. Over one-half (53.4 per cent) of the white and over one-third (36 per cent) of the negro boys reported that they had planted one or more crops; three-tenths (30 per cent) of the white girls but less than one-fifth (17.4 per cent) of the negro also reported planting. Of the group of 179 children who reported one or more kinds of planting, 50.8 per cent had planted cucumbers or melons, 48 per cent Irish potatoes, 41.9 per cent either sweet or field corn, 36.9 per cent beans, 20.7 per cent peas.

Some kinds of planting are simple. Planting Irish potatoes, for instance, which was reported by a few children between the ages of 8 and 10, consists in dropping pieces of potato by hand into a furrow already plowed for the purpose. The second planting of



PICKING EGGPLANT.



TWELVE-YEAR-OLD BOY CARRYING HAMPER OF CUCUMBERS.





corn, known as replanting, which consists of dropping seeds by hand into a drill, was also reported by children as young as 8 years. Few children under 10 years, however, planted melons or cucumbers, which though done by hand requires more judgment than either of the kinds of planting previously mentioned. The use of machines increases the difficulty and dangers of farm work for children and undoubtedly many who reported planting corn, beans, or peas operated the various hand or horse-drawn machines which are in common use in this area for planting. Information was not obtained as to the numbers of children using machines.

TABLE 5.—*Kinds of field work done by children in resident families, by sex and race; Anne Arundel County.*

Kind of field work, and sex.	Children under 16 years of age doing each specified kind of field work.					
	Total.		White.		Negro.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total .....	540	100.0	218	100.0	322	100.0
Plowing.....	83	15.4	49	22.5	34	10.6
Harrowing.....	97	18.0	59	27.1	38	11.8
Planting.....	179	33.1	93	42.7	86	26.7
Cultivating.....	91	16.9	52	23.9	39	12.1
Hoing.....	231	42.8	97	44.5	134	41.6
Weeding.....	206	38.1	119	54.6	87	27.0
Spraying.....	39	7.2	33	15.1	6	1.9
Transplanting.....	329	60.9	169	77.5	160	49.7
Thinning.....	101	18.7	57	26.1	44	13.7
Picking.....	494	91.5	195	89.4	299	92.9
Gathering potatoes.....	189	35.0	119	54.6	70	21.7
Shucking or husking corn.....	12	2.2	6	2.8	6	1.9
Saving fodder <sup>1</sup> .....	36	6.7	24	11.0	12	3.7
Boys.....	279	100.0	118	100.0	161	100.0
Plowing.....	81	29.0	47	39.8	34	21.1
Harrowing.....	92	33.0	54	45.8	38	23.6
Planting.....	121	43.4	63	53.4	58	36.0
Cultivating.....	85	30.5	48	40.7	37	23.0
Hoing.....	140	50.2	66	55.9	74	46.0
Weeding.....	100	35.8	68	57.6	32	19.9
Spraying.....	32	11.5	26	22.0	6	3.7
Transplanting.....	193	69.2	101	85.6	92	57.1
Thinning.....	71	25.4	41	34.7	30	18.6
Picking.....	248	88.9	105	89.0	143	88.8
Gathering potatoes.....	109	39.1	71	60.2	38	23.6
Shucking or husking corn.....	7	2.5	4	3.4	3	1.9
Saving fodder <sup>1</sup> .....	27	9.7	20	16.9	7	4.3
Girls.....	261	100.0	100	100.0	161	100.0
Plowing.....	2	0.8	2	2.0	.....	.....
Harrowing.....	5	1.9	5	5.0	.....	.....
Planting.....	58	22.2	30	30.0	28	17.4
Cultivating.....	6	2.3	4	4.0	2	1.2
Hoing.....	91	34.9	31	31.0	60	37.3
Weeding.....	106	40.6	51	51.0	55	34.2
Spraying.....	7	2.7	7	7.0	.....	.....
Transplanting.....	136	52.1	68	68.0	68	42.2
Thinning.....	30	11.5	16	16.0	14	8.7
Picking.....	246	94.3	90	90.0	156	96.9
Gathering potatoes.....	80	30.7	48	48.0	32	19.9
Shucking or husking corn.....	5	1.9	2	2.0	3	1.9
Saving fodder <sup>1</sup> .....	9	3.4	4	4.0	5	3.1

<sup>1</sup> Includes stacking and pitching.

A majority of the white children, over three-fourths (77.5 per cent), and one-half the negro, reported transplanting, usually tomatoes, sweet potatoes, or cantaloupes, though a few had transplanted strawberries, eggplants, green peppers, and other vegetables. Nearly one-half (44.2 per cent) the children under 10 years of age had done some kind of transplanting. Although they did not always specify what operation they had performed, it is probable that most of them had done some kind of hand transplanting, such, for instance, as "dropping" strawberry or sweet potato plants, a simple operation consisting only of walking along the plowed field and dropping a plant at regular intervals. The planting and "setting" of the plants is done by another worker who follows, digs a hole in the ground, and sets the plant in the hole. As one father remarked, "Any little child who can walk straight can be taught to drop, but planting takes sense." The transplanting of strawberries is usually, though not always, done by hand in this locality; tomatoes and sweet potatoes are usually transplanted with the aid of a hand or machine transplanter. Information was not obtained as to whether or not the children who reported transplanting tomatoes and sweet potatoes worked by hand or used a machine, nor was information obtained concerning the kinds of machines in common use in this area.<sup>4</sup> Hence precisely what difficulties the children experienced in their work can not be stated.

General farm work was done by a majority of the boys 12 years of age and more who worked on their fathers' farms, but few children were hired for general work other than hoeing. Negro boys, therefore, a large proportion of whom were hired hands, were not as likely as white boys to report that they had done plowing, harrowing, cultivating, spraying, and weeding. Few girls and few children under 12 years of age did any general work except hoeing and weeding. Hoeing, which was reported by over two-fifths of both the white and negro children, involves a certain amount of bending and is a fatiguing and monotonous task when done for many hours in the hot sun. Plowing, harrowing, and cultivating require physical strength. Although two-fifths of the white boys reported plowing and a somewhat greater proportion reported harrowing, it is significant that only 8 boys who had done plowing were under 12 years of age, one being 8 and another 9 years. One Polish father said he had learned by experience to be careful of his 2 boys, aged 12 and 14 years, because "my oldest, he got a rupture; we put him too young at the plow." Only 11 boys under 12 years and 1 girl had done cultivating. One boy of 8 who reported cultivating was learning under the supervision of his father, who said that he was strong enough for cultivating,

---

<sup>4</sup> The machine transplanter in common use on the Eastern Shore is described on p. 41.

but too young to plow. Another father said that he was "too particular with his crops to let his 12-year-old boy either plow or cultivate." The difficulties experienced in these kinds of work depend to a large extent on the kinds of machines used; information on this point was not obtained for Anne Arundel County.<sup>5</sup>

Except for plowing, harrowing, cultivating, and lifting heavy baskets of vegetables, the work which the children reported that they did does not require a great deal of physical strength. Endurance, however, is necessary. Most of the work is done in the summer months when the hot sun beats down upon the stretches of open fields. The constant walking over plowed ground under the hot sun—the children usually wear broad-brimmed straw hats and white children wear shoes and stockings—the monotonous nature of the work, and the continual stooping, which involves a strain on the muscles of the back and shoulders, combine to make the work fatiguing.

### **The length of the working-day.**

In view of the difficulty of obtaining accurate data regarding the hours which the children worked, inquiry was made only as to the number of hours worked on the last typical day before the agent's visit. By limiting the inquiry to a single day, usually the day preceding the agent's visit, it was considered that the information secured would be accurate and that it would fairly represent the daily hours worked during the period covered by the agents' visits. Although the work was somewhat irregular, and the number of hours varied from day to day, the average hours worked on a large number of typical days would give a fair picture of the length of the average working-day. As the survey was made during part of the strawberry and bean picking seasons, more children reported picking than any other work on the day for which information regarding hours was secured. The hours for picking strawberries are limited by the fact that the berries can not be picked until the dew has dried off and by the fact that they must be shipped as soon as picked; the hours for picking beans are also limited, because the pods shrivel if picked during the middle of the day when the sun is very hot. During the season covered by the study also the working hours for bean picking were said to be shorter than those of a more typical season because of the poor crop. Hence the following account of the length of the working-day indicates a shorter day than is probably customary for children doing more general kinds of work on truck farms.

That the field work of the older boys was important and the work of the younger children relatively insignificant is indicated by the longer working-day of the former, which was commonly 8 or more

<sup>5</sup> For plowing by children on the Eastern Shore farms, see p. 42.

hours. (Table 6.) Of 58 white and negro boys 12 and 13 years of age who reported the number of hours worked in the field 31 had worked 9 or more hours and 6 had worked 12 or more hours. Of 66 boys 14 and 15 years of age 12 had also worked 12 or more hours. A few young children worked long hours; thus, 20 of the 81 negro children, though only 3 of the 46 white children, under 10 years of age, reporting hours, had worked 9 or more hours, an 8-year-old colored girl reporting on her last working-day 13 hours in the fields.

TABLE 6.—*Field hours of children in resident families on last working-day previous to agent's visit, by age and race; Anne Arundel County.*

Field hours on a typical working day, and race.	Children under 16 years of age doing field work.										
	Total.		Under 8 years. <sup>1</sup>	8 years, under 10.		10 years, under 12.		12 years, under 14.		14 years, under 16.	
	Num-ber.	Per cent dis-tribu-tion.		Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>	Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>	Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>	Num-ber.	Per cent dis-tribu-tion. <sup>1</sup>
White.....	218	100.0	19	44	100.0	48	100.0	59	100.0	48	100.0
Less than 4 hours.....	58	26.6	9	20	.....	15	.....	11	18.6	3	.....
4 hours, less than 6.....	38	17.4	1	8	.....	9	.....	15	25.4	5	.....
6 hours, less than 8.....	24	11.0	3	1	.....	5	.....	9	15.3	6	.....
8 hours, less than 9.....	17	7.8	.....	1	.....	6	.....	4	6.8	6	.....
9 hours, less than 10.....	9	4.1	.....	1	.....	1	.....	3	5.1	4	.....
10 hours, less than 12..	32	14.7	.....	1	.....	5	.....	9	15.3	17	.....
12 hours, less than 14..	7	3.2	.....	1	.....	.....	.....	3	5.1	3	.....
Not reported.....	33	15.1	6	11	.....	7	.....	5	8.5	4	.....
Negro.....	2322	100.0	26	65	100.0	77	100.0	67	100.0	84	100.0
Less than 4 hours.....	59	18.3	10	18	27.7	17	22.1	6	9.0	8	9.5
4 hours, less than 6.....	38	11.8	5	9	13.8	12	15.6	6	9.0	6	7.1
6 hours, less than 8.....	34	10.6	1	6	9.2	9	11.7	9	13.4	8	9.5
8 hours, less than 9.....	51	15.8	3	9	13.8	13	16.9	10	14.9	16	19.0
9 hours, less than 10.....	26	8.1	1	6	9.2	7	9.1	7	10.4	4	4.8
10 hours, less than 12..	61	18.9	2	8	12.3	8	10.4	19	28.4	24	28.6
12 hours, less than 14..	22	6.8	1	2	3.1	.....	.....	5	7.5	13	15.5
Not reported.....	31	9.6	3	7	10.8	11	14.3	5	7.5	5	6.0

<sup>1</sup> Per cent distribution not shown where base is less than 50.

<sup>2</sup> Includes 3 children for whom age was not reported.

Negro children as a whole worked much longer hours than white children, but no marked difference appeared between the hours of white children of native and foreign-born parentage. Of 162 white children who reported the number of hours worked, 81 had worked 8 or more hours, 51 of the 99 children of native and 30 of the 63 children of foreign-born parentage. Only 4 children of native and none of foreign parentage had worked from 13 to 14 hours on the day preceding the agent's visit. Three children of Hungarian parents, boys aged 13, 14, and 15 years, had worked picking cucumbers the day before the agent's visit from 5.30 a. m. to 12 o'clock and from 1 to 8 p. m. One-half of the white and one-third (33.3 per cent) of the negro children reporting had worked less than 6 hours; about one-third (35 per cent) of the white and nearly three-fifths (55 per

cent) of the negro children, 8 or more hours. About seven-tenths (69 per cent) of the negro children, it will be remembered, but only 14 per cent of the white children, were hired laborers, and these were not as likely as farmers' children to work less than 8 hours. Neither were they, on the other hand, as likely to work over 10 hours; their hours were more regular, being, as a rule, 8, 9, or 10.

In addition to the time spent working in the field, the chores or housework reported by most children made their total day's work a long one. Chores were reported by seven-tenths of the white boys and by two-fifths of the negro boys. One-half of the white girls and two-fifths of the negro also did chores. Chores consisted of feeding and caring for horses, cows, and pigs; cleaning out stables, milking cows, feeding chickens, chopping wood, and carrying water both for the household and for live stock. Practically all the white and four-fifths of the negro girls reported housework, which, on account of lack of modern household conveniences in most of the homes of the area, was more than usually burdensome. Some boys also helped with the housework. In one Polish family, for example, where the mother was working long hours in the field, the boys, besides their field work, took turns doing the washing. The time spent by the boys on chores or household duties was usually not so long as that spent by the girls, so that the total working-day of the girls was nearly as long as that of the boys, who spent more hours at field work. On the last day of field work the total number of hours worked by one-half of the 162 white children reporting hours and by three-fifths (61.7 per cent) of the 256 negro children reporting was at least 8 hours; one-third (32.1 per cent) of the white and two-fifths (42.6 per cent) of the negro children had worked 10 or more hours. A few children, 6 white and 3 negro, reported working a total of 14 or more hours.

### **Duration of work.**

It is probable that, whereas most of the children under 10 or 12 years of age, as well as most of the older girls, were employed only intermittently during the rush seasons, when every available hand was needed to get the produce to market, the majority of the older boys and some of the older girls worked from March or April, when the first plowing and planting was done, to September or October, when the last crop was harvested.

In one family, for example, were three girls aged 15, 12, and 10 and one boy aged 13. The eldest girl did a great deal of farm work, as her father, who was a carpenter, worked on the farm only in the evenings and on Sunday, and her mother was occupied with housework and caring for the younger children. She, as well as her 13-year-old brother, during the months of April and May plowed and

harrowed, and planted corn, beans, and potatoes; also, during May they transplanted tomatoes, sweet potatoes, and cabbage, and during the summer months cultivated, hoed, and weeded all the different crops and picked four different kinds of vegetables; in September they gathered potatoes. Except for plowing, the two younger girls did the same kinds of work. In the months of April, May, September, and October the mother said the work of the children was irregular; in the summer months they worked regularly every day except when it rained. On the day before the agent's visit each child had worked 10 hours—from 7 a. m. to 12 and from 1 to 6 p. m. The work of the older boys may be illustrated by the work experience of a 14-year-old negro boy. He had worked 7 days in April hoeing strawberries, 21 days in May planting corn and picking strawberries, 7 more days in May hoeing strawberries and sweet potatoes. In June he had spent 14 days picking strawberries and peas and in hoeing strawberries and an equal amount of time hoeing tomatoes and picking raspberries. Almost every day in July he had worked picking either beans or raspberries and 27 days in August picking blackberries.

No information could be obtained except in comparatively rare cases regarding the number of days worked during the year or the number of days worked consecutively. In the absence of data showing how protracted were the periods of work it is impossible to determine to what extent the long hours worked by the boys 12 and 13 years of age and over may have been physically injurious.

### **Earnings.**

The amount of money hired children earned during the season is impossible to estimate. Children who were hired by farmers other than their parents were usually paid the prevailing rates for piece-work by the basket or by the row. The prices for picking were from 25 to 30 cents for a five-eighths bushel basket of beans, 30 to 35 cents for a bushel of peas, 4 cents for a five-eighths bushel of tomatoes. Some children who weeded and hoed were paid by the row; the rate, which varied with the length of the row and the amount of grass in each row, was usually from 10 to 25 cents a row. One child of 11 earned 40 cents in five hours by weeding 8 rows of strawberries. When the children were paid for general farm work by time the rates widely varied with each farmer and each child, the children usually receiving from 10 to 30 cents an hour. These rates sometimes varied with the age of the child and the kind of work. One child, for example, received 10 cents an hour for weeding tomatoes and 15 cents an hour for dropping sweet potatoes. Another child received 15 cents for dropping and 20 cents for setting. One child of 5 years was given 10 cents a day for dropping sweet potatoes.

The children who worked for their own parents were not usually paid in money. That some of the less prosperous farmers considered their work an economic necessity is illustrated by the observation of one father who owned 40 acres: "We farmers poor; can't pay help, so the children must work to keep shoes on us all and food in the house."

### FARM WORK AND SCHOOLING.

However difficult it may be to determine the extent to which children's work on truck farms in these areas may be detrimental to their welfare in other respects it is clear that for many children it resulted in considerable loss of schooling. The compulsory school attendance law of Maryland contains no clause allowing children to be excused from school for farm work. Since 1916, when a compulsory attendance law was passed applicable to all the counties in the State,<sup>6</sup> children between the ages of 7 and 13 have been required to attend school during the entire period of each year when the public schools are in session.<sup>7</sup> Children 13 and 14 years of age are required to attend school at least 100 days as nearly consecutive as possible, beginning not later than November 1, and the whole term unless regularly employed; children 15 and 16 years of age, who have not completed the elementary-school course, interpreted as completion of seventh grade, are also required to attend school a minimum of 100 days.

Most of the 216 white and 319 negro children between the ages of 6 and 16 years included in the present study were enrolled in school during the school year preceding the survey, but 25, or 11.6 per cent, of the white children and 35, or 11 per cent, of the colored children were not enrolled. Eighteen of these 25 white children either were between the ages of 7 and 13 or were children of 13 or 14 who were required to attend at least 100 days unless regularly employed, or were 15-year-old children who had not completed the seventh grade and were therefore legally required to attend school a minimum of 100 days if not regularly employed. With three exceptions, the 35 negro children between 6 and 16 not enrolled ought legally to have been in school, but 17 were unable to attend, inasmuch as the school in their district was not in session during the year of the survey.

<sup>6</sup> Maryland Laws, Acts of 1916, ch. 506. The law here summarized is the county school law and does not apply to Baltimore.

<sup>7</sup> Children may be excused for "necessary and legal absence," but by-law 46 of the State board of education provides that absence from school within the compulsory attendance ages shall be considered lawful only under the following conditions: Death in child's immediate family, illness of child, quarantine, court summons, physical or mental incapacity, and weather conditions such as would endanger the child's health or safety when going to and from school. (Maryland Public School Laws, 1922. Maryland State Board of Education, Baltimore, 1922.)

Whether or not the children not enrolled in school had stayed out primarily for farm work is not known. Over two-fifths of the 124 white children and three-tenths of the 196 negro children who were enrolled in a school and who reported on absence had been absent for farm work.<sup>8</sup> (Table 7.) Of the white children 15 per cent and of the negro 11 per cent had stayed out for work on the farm 30 or more days or 6 school weeks.

TABLE 7.—*Absence from school on account of field work of children in resident families; Anne Arundel County.*

Absence from school on account of field work.	Children between 6 and 16 years of age attending school.					
	Total.		White.		Negro.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total .....	475		191		284	
Reporting as to absence: Total.....	320	100.0	124	100.0	196	100.0
No absence for field work.....	209	65.3	73	58.9	136	69.4
Less than 10 days.....	26	8.1	15	12.1	11	5.6
10 days, less than 20.....	30	9.4	11	8.9	19	9.7
20 days, less than 30.....	15	4.7	6	4.8	9	4.6
30 days, less than 40.....	10	3.1	3	2.4	7	3.6
40 days, less than 80.....	18	5.6	8	6.5	10	5.1
80 days and over.....	12	3.8	8	6.5	4	2.0
Not reporting.....	155		67		88	

Those who reported the longest periods of absences were usually older boys who, as previously explained, did the greatest amount of field work. Of the 40 children of both races who were absent for field work 30 or more days, all except 7 were boys. One 13-year-old boy who had completed only the third grade was 51 days late in entering school and reported in addition 31 days' absence for farm work. His two brothers, who were 14 and 15 years of age, respectively, had each completed only the fourth grade but were not attending school at all. In a Polish family were two boys of 12 and 14 who had completed the first and second grade, respectively. They had attended school not more than 30 days during the past school year, had entered after Christmas and withdrawn early in March. They had stayed out in January and February to get wood and do other household chores. Their mother in explaining their absences said that she regretted having to keep them out of school, but "when you ain't got no dollar, you got to put in your 10 fingers."

One negro mother who could not remember the number of days her two children had missed school in order to work said that when there was farm work to be done the children "dropped off right smart" in their school attendance, "but occasionally went to school a few days." One of the negro fathers in commenting on the short terms of the negro schools said they "had to close" before the straw-

<sup>8</sup> The number of days the child was absent from school was secured from the school records and the reasons for the child's absence were obtained from the parents during the home interview.



berry season. The smaller proportion of negro than white children absent from school on account of farm work is due to the fact of shorter terms in the negro schools. Unlike the white schools they were closed during May and June; that is, during the strawberry and bean picking season.

All the absence for farm work reported by 27 white and 22 negro children from 7 to 12 years of age, inclusive,<sup>9</sup> was illegal, as was that also of 4 white and 15 negro children 13 or 14 years of age attending school less than 100 days and that of five 15-year-old negro children who had not completed the seventh grade and who had attended less than 100 days. Thus, according to the statements of their parents, at least 73, or almost one-sixth of the 462 white and negro school children between the ages of 7 and 16 employed on truck farms in the area had been illegally absent for farm work during the school year preceding the survey.

The majority of white children included in the present study had little excuse for nonattendance on account of distance, bad weather, and the like, as they attended a school providing transportation by motor bus; but some of the negro children had a long distance to walk—no transportation was provided and one-fourth lived  $2\frac{1}{2}$  miles or more from the nearest schoolhouse. Of the 167 white and 217 negro children for whom attendance records were secured, 12 per cent of the white and 15 per cent of the negro had attended school less than one-half their respective school terms. Most of the negro children attended schools which were in session 138 days as compared with the 187-day session of the school which most of the white children attended. Thus the actual number of school days attended by the negro was much less than that attended by the white children: 118 (70.7 per cent) of the white but only one-fourth (27.8 per cent) of the negro children attended school 120 or more days, and less than one-fifth (18 per cent) of the white but nearly two-fifths of the negro had attended less than 100 days.

Although many factors combine to cause retardation among school children it is generally acknowledged that irregular attendance is one of the principal causes of a child's failure to make normal progress. The school time of rural children especially is subject to interruption on account of bad roads, bad weather, and distance from school. When to these absences is added absence for work on the farm, it is not hard to understand why the boy or girl of 12 or 13 is so frequently to be found in the primary grades.

When the irregular attendance is taken into consideration it is not surprising to find that 50 per cent of the white and 71 per cent

<sup>9</sup> Age as of Sept. 1, 1921. The age as of this date makes the children 1 year older than they were at the beginning of the school year for which the absences were reported (1920-21), so that except in the case of the two 7-year-old children, who might have been absent for farm work before they were 7 years of age during the school year covered by the inquiry and so outside the provisions of the compulsory school attendance law, the figures present a minimum statement of the amount of illegal absence among the children in the study.

of the negro children between the ages of 8 and 16 were below average grades for their ages.<sup>10</sup> (Table 8.) The large proportion of white children who were retarded is due largely to children of foreign-born parentage whose attendance records were less satisfactory than those of children of native white parents and who were also considerably more retarded. The result of the high percentage of retardation among negro children is that large numbers never finish the elementary-school course. Of 104 negro children, 13, 14, or 15 years of age, only 12 had completed as much as the seventh grade.

TABLE 8.—Retardation of children in resident families, by age and race; Anne Arundel County.

Age <sup>1</sup> and race.	Children between 8 and 16 years of age attending school.														
	Total.	Retarded.								Normal.		Advanced.		Not reported.	
		Total.		1 year.		2 years.		3 years and over.							
		Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>	Number.	Per cent. <sup>2</sup>
White....	180	90	50.0	45	25.0	27	15.0	18	10.0	78	43.3	3	1.7	9	5.0
8 years, under 10	36	2	.....	2	.....	.....	.....	.....	.....	29	.....	3	.....	2	.....
10 years, under 12	50	24	48.0	17	34.0	6	12.0	1	2.0	23	46.0	.....	.....	3	6.0
12 years, under 14	53	32	60.4	15	28.3	7	13.2	10	18.9	21	39.6	.....	.....	.....	.....
14 years, under 16	41	32	.....	11	.....	14	.....	7	.....	5	.....	.....	.....	4	.....
Negro....	265	189	71.3	52	19.6	52	19.6	85	32.1	65	24.5	5	1.9	6	2.3
8 years, under 10	55	21	38.2	14	25.5	7	12.7	.....	.....	30	54.5	3	5.5	1	1.8
10 years, under 12	70	41	58.6	17	24.3	18	25.7	6	8.6	24	34.3	2	2.9	3	4.3
12 years, under 14	68	62	91.2	15	22.1	17	25.0	30	44.1	6	8.8	.....	.....	.....	.....
14 years, under 16	72	65	90.3	6	8.3	10	13.9	49	68.1	5	6.9	.....	.....	2	2.8

<sup>1</sup> Age as of Sept. 1, 1921.

<sup>2</sup> Not shown where base is less than 50.

How the progress in school of these children compares with that of city children is shown in Table 9. This table, which gives the average retardation rates for white children between 8 and 16 years of age, is based on the records of over a million children in 80 cities compiled by the United States Bureau of Education. Twice as many of the children in age groups from 11 to 15, inclusive, included in the study were retarded as would have been retarded according to average rates.

Although rural children tend to enter school somewhat later than city children, a circumstance which would of course influence the grade attained at a specified age, the ages at which the retarded white

<sup>10</sup> The age basis on which the retardation of these children was calculated is that adopted by the U. S. Bureau of Education. Children of 6 or 7 years are expected to enter the first grade, children of 7 or 8 the second grade, etc. Normally a child is expected to complete one grade each year; children, therefore, were considered retarded if they had not entered the second grade by the time they reached the age of 8 years, the third grade at 9 years, the fourth grade at 10 years, etc.

children in the present study entered school probably did not affect their school standing, for nearly all had entered school before their eighth birthday. One factor which probably did affect to some extent the unusually high rate of retardation among the older children as compared with the average is that in the counties in which the areas included in the study are situated duller children are kept in school by the legal requirement that they attend up to the age of 16 unless they have completed the seventh grade, whereas in many of the cities from whose retardation statistics the average is computed children 14 years of age and over who are eligible for working papers are not required to attend school and thus a "weeding out" of the less interested and presumably less able children automatically takes place.<sup>11</sup> The long absences for farm work reported by the older boys can not but be considered an influential factor in their strikingly high rate of retardation, even when allowance is made for other possible causes of failure.

An amendment to the school law passed in 1922,<sup>9</sup> after the study was made, providing that the State will pay the salary of one attendance officer if the county will furnish means of transportation for him will undoubtedly increase the number of attendance officers in some counties and insure at least one such officer in every county, thus strengthening the enforcement of attendance of both white and negro pupils. A further provision also passed in 1922 lengthening the term of the negro schools from 140 to 160 days should also make it possible for the negro children to make better progress in school.<sup>12</sup>

TABLE 9.—*Retardation of children in resident families in Anne Arundel County as compared with average retardation among city children.<sup>a</sup>*

Age. <sup>b</sup>	White children between 8 and 16 years of age attending school.			Average rate of retardation. <sup>a</sup>
	Total.	Retarded.		
		Actual number.	Expected number. <sup>c</sup>	
Total.....	180	90	50	.....
8 years, under 9.....	21	.....	2	10.5
9 years, under 10.....	15	2	2	15.5
10 years, under 11.....	25	9	5	21.6
11 years, under 12.....	25	15	7	26.9
12 years, under 13.....	28	18	9	32.4
13 years, under 14.....	25	14	9	36.5
14 years, under 15.....	23	19	9	37.8
15 years, under 16.....	18	13	7	37.3

<sup>a</sup> Based on average rates of retardation for different ages among 1,142,179 pupils in 80 cities, unpublished figures furnished by the U. S. Bureau of Education.

<sup>b</sup> Age as of Sept. 1, 1921.

<sup>c</sup> Number expected at average rates of retardation.

<sup>11</sup> The Maryland child labor law, however, provides that, "The State Board of Labor and Statistics shall have the discretion of issuing temporary permits to children over 14 years of age, who are mentally retarded and are unable to make further advancement at school, upon the written recommendation of the superintendent of education" of Baltimore or any county. Maryland, Session Law of 1920, ch. 434, sec. 36A.

<sup>12</sup> Maryland Laws, Acts of 1922, ch. 382.



## MIGRATORY CHILD WORKERS IN ANNE ARUNDEL COUNTY.

From the middle to the end of May every year, when strawberries, beans, and peas are about ready to be picked, Polish families migrate from Baltimore to the truck farms of Anne Arundel County. Trucks laden with household goods, wooden chests, washtubs, kitchen utensils, and feather beds with women and children seated on top may be seen any day at this period of the year moving out from the southeast part of Baltimore toward the country.

Owners of large truck farms in Anne Arundel County, unable to obtain sufficient local labor for the picking season, make a practice of recruiting additional labor from the city. The farmer's agent, the "row boss"—so called because he has the duty of assigning the picker to a row of beans or strawberries—engages the workers, usually his friends and neighbors in the city, and often secures the same families for several successive years. Of the 145<sup>13</sup> white migratory families visited in the course of the present study, over two-thirds had worked on farms 3 or more seasons; 21 had worked 11 or more, though not necessarily on the same farm. The row boss explains to them the arrangements made by the farmer—there is no contract between the family and the farmer. They are expected to provide their own food and bring their bedding and kitchen utensils. The farmer provides sleeping quarters, lumber from which to make tables and benches, and transportation to and from the farm. Workers are usually expected to finance themselves through the season, though occasionally the farmer provides credit.

Most families expect to remain on the farm throughout the season, but the majority of the families visited expected to stay from 6 to 8 weeks, a number less than 4.<sup>14</sup> After leaving the truck farms the workers usually return to the city. A few (9 families), however, stated that during the preceding year they had "followed the work," from the berry fields of Anne Arundel County to tomato or other kinds of canneries. Of these 9 families 5 had gone to canneries in the far South, 1 to Balabtry, Ala., another to Louisiana. One family that had gone to Biloxi, Miss., reported that their permanent residence was Baltimore. Their itinerary for the preceding 12 months had been as follows: May 15 to July 15, the truck farms of Anne Arundel County; July 15 to August 15, Baltimore; August 15

<sup>13</sup> Five negro families who did seasonal work were also visited, but as their living conditions were more nearly like that of resident farm laborers they are not included in the following discussion.

<sup>14</sup> The season of 1921, from 6 to 8 weeks, was shorter than the typical season owing to poor crops.

to October 1, the tomato canneries of Chestertown, Md.; October to November, Baltimore; November, 1920, to May, 1921, the oyster and shrimp canneries of Biloxi, Miss.

### THE WORKERS' FAMILIES.

Most of the seasonal workers in this area are Poles. Thus, the fathers in 126 of the 145 white families included in the study had been born in Austria or German or Russian Poland; 9 fathers were of other Slavic or German origin. In only 7 of the 145 families had the mothers been born in the United States. These families were by no means recent immigrants—only 1 father and 4 mothers had been in this country less than 10 years; 9 out of 10 of both fathers and mothers had been in the country 15 or more years—some had come over when they were children. But living as they did, segregated in a Polish district in the city, the mothers especially were often unable to speak English. The mother in 85 families had not learned the language; 66 of these mothers had lived in the United States at least 15 years. Forty-three fathers also were unable to speak English. A large proportion were illiterate.

The men were, for the most part, unskilled laborers who did outside work in metal factories and packing houses or day labor in the streets or on the docks. About one-third of the women (most of them widows) worked while in the city, as a rule in canneries, in addition to their six weeks of field work in the summer. In practically all the families the mothers and many of the fathers and their children went to the country together. In the year of the survey, when all kinds of work were affected by the unemployment situation, over one-half (56 per cent) of the men went with their families for the picking season. Some of these men reported that they had held steady jobs, but had been persuaded by the row boss that they would make more money in the country. Others said that they had quit their city jobs because they had wanted a change or a "vacation." The amount and extent of unemployment reported among these families in 1920-21 was large, and no doubt abnormal. In only 31 families had the chief breadwinner been steadily employed throughout the year preceding the study. A large proportion had been out of work four months or more. In no case, however, did the family rely on their earnings in the country to carry them through the year. Except for families who went to the far South in the winter, such earnings were regarded as supplementary to their regular income.

The families represented by these workers are considered by social workers of the district where they live in Baltimore to be thrifty and hard working. It is significant that of the whole group of 145 only 4 families had moved their permanent residence in the five years

preceding the survey, practically all returning to their Baltimore homes when the picking season was over. As an illustration of their thrifty habits it is said that when families return from the country with \$100 or \$200 their custom is to buy supplies for the winter, when work may be slack. One or 2 barrels of flour, 1 or 2 tons of coal, and several bushels of potatoes are laid in; the mother also puts up tomatoes and piccalilli. One of the fathers who had asked a charitable society to find a home for his children, as the mother had died, had spent \$50 on clothes and shoes for them on his return from the country. It is interesting to note that of 25 of the families who were registered with social agencies of Baltimore, not necessarily with relief agencies, 12 were buying or owned their houses.

#### CAMP LIFE.

Seasonal workers are housed by the farm owners on their own land in what are referred to locally as camps. Twenty-five of these camps were visited and families whose children were working on farms were found in 22 of them. In these 22 camps 268 families, consisting of 1,074 persons, including approximately 550 children under 16 years of age, were living.

Most of the camps contained but one building, known as a "shanty," which served as sleeping quarters for the workers. This building, usually two stories high, was erected on piles or rough stones. In most camps it was weather beaten or unpainted and the windows usually lacked either glass or shutters or both. As a rule there was but one room on each floor, with stairs on the outside leading to the upper room. In some a partition divided the lower floor, which was about 25 by 30 feet, into two rooms. On each side of a narrow aisle down the center of the room the floor was divided into sections or pens by boards 10 or 12 inches in height. Each pen was about 6 feet long and from 4 to 6 feet wide and covered with straw for a mattress. (See illustration facing p. 26.) Each family was allotted one of these pens, the larger families sometimes securing those 6 feet in width. At night men, women, and children, partially clad, one family separated from the next by the plank 10 inches in height, lay side by side.

Except for wooden chests at the foot of the bed spaces, and a shelf around the room, on which were miscellaneous possessions, there were no furnishings. Clothes were hung on nails about the walls. The bed space was covered with straw upon which sheets and blankets were folded or rolled in balls in a corner.

In some shanties one or two families had made futile attempts at privacy by hanging up a blanket. In one camp, among the poorest in appearance, with weather-stripped boards, sagging roof, and no glass in the windows, the families succeeded in attaining a degree of

privacy. They had rigged up wires from one beam to another and had hung up an assortment of spreads and blankets about each family section. (See illustration opposite.) One of the smaller shanties, partitioned by the farmer into three rooms downstairs, also had one room upstairs. Only 9 families lived in this shanty: Three upstairs; downstairs, 2 in one room, 3 in another, and the row boss and his family by themselves in the third.

TABLE 10.—*Number of persons in shanties occupied by migratory white families, by number of sleeping rooms in shanty; Anne Arundel County.*

Number of persons in shanty.	Migratory white families.					
	Total.	Number of sleeping rooms in shanty.				
		1	2	3	4	6
Total.....	145	23	89	13	12	8
Less than 10.....	2	1	1			
10, less than 20.....	10	5	3	2		
20, less than 30.....	15	5	7	3		
30, less than 40.....	42	7	25	4	6	
40, less than 50.....	19		19			
50, less than 60.....	16	4	4			8
60, less than 70.....	9		9			
90, less than 100.....	10		10			
100 and over.....	10			4	6	
Not reported.....	12	1	11			

Attempts at orderliness were made by many families. Some, in the absence of screens or glass panes, had put up lace curtains in the windows as a protection against flies. Many camps, however, were untidy or dirty; in one, for example, the bedding was thrown about, and chickens were sitting on the straw of the bunks; in another, where the quilts, soiled bedding, and hay were strewn about, the families said that on Saturday they had a thorough cleaning "to be nice for our visitors on Sunday" and that then "the shanty looks grand, just like a hospital."

Many of the shanties containing two such rooms used for sleeping purposes were often occupied by from 30 to 50 persons of both sexes and all ages. Over three-fourths (77.2 per cent) of the families interviewed lived in a shanty of one or two rooms (Table 10), and over one-half (53.8 per cent) shared one or two rooms with from 30 to 100 persons. One shanty, divided into four rooms, was occupied by 9 families containing 36 persons, a less crowded condition, but another shanty of four rooms housed 100 persons. Another shanty in which were six rooms was occupied by 8 families, a total of between 50 and 60 persons. Two families only had a shack to themselves.

Cooking and eating arrangements were fairly adequate. Each family had its own stove and table built under the trees surrounding the shanty. The farmer provided fuel for cooking, lumber for



making tables and benches, and bricks and sheet iron for stoves. If the father or older boys of a family were ingenious they constructed very serviceable tables and benches with rude shelters over them to keep out rain and sun. The campers made community ovens of bricks or clay such as may be seen in villages in "the old country."

Usually each family was responsible for keeping clean the space about its own shelter. Waste water was usually thrown out on the spot where it was used. Some of the garbage was burned; in one camp tin cans and other refuse were thrown down the edge of a bank into a stream; in another, a hollow place between the camp and the farmer's orchard was used. One camp which had been occupied for several successive years and the grounds not cleaned between seasons was rendered unsightly by piles of tin cans and other refuse. Usually flies swarmed over stray bits of food.

Little attention was given to sanitation. More than one-half the families had no toilet facilities. The odors pervading camps, even those provided with privies, were offensive. Twelve of the 25 camps had no privy, and only 1 had toilet arrangements which could be considered adequate. The latter had 3 well-constructed privies which were cleaned twice a week by the children sent by the row boss for the purpose. These privies, however, served for a camp of 72 persons. One camp had 3 privies, all in bad condition, and another had 5. A description of those 5, which had been constructed by the pickers themselves and not by the farmer, will serve to illustrate the general problem. A piece of old burlap, not larger than half a gunny sack, was hung up on a low bough of a tree or stretched across the branches, behind which was a crude seat. There were no pits, but 4 of the privies were located over a brook, which at no place was more than 50 yards distant from the tables and stoves of the camp. In another camp about 50 yards distant from the shanty the workers had improvised a toilet by setting a narrow board across two other narrow boards over a small stream. The place was foul smelling and infested with flies and the woods were frequently used in preference to it. In another camp the pickers had used the privy of a neighboring negro family.

Some of the privies were dangerously near the water supply. Two camps, for example, were situated on the same stream; the 5 privies of the first of these emptied into the stream; the second camp adjoined the first 100 yards downstream. Both camps used the water for washing but not for drinking. The spring of the first camp, however, though carefully protected from dirt by a wooden cover; was so near the privies that the water might easily have been polluted. In another camp the privy, in itself fairly clean, though it had to suffice for 65 persons, was located over the creek and just

above where the children were accustomed to wade. In still another camp the spring looked very attractive; it was protected with white-pine boarding and the water was clear; but no privy existed in this camp, and the workers were obliged to use the woods about the spring.

Sixty-five families reported that they used a spring or brook for both drinking and washing purposes; 66 others had dug wells. Only 11 families, all living in the same camp, had access to a drilled well, 80 feet deep. The well in one camp could not be used, because it was said to be contaminated, and the spring was dry. The farmer in this camp hauled two barrels of water a day from his well for the 30 campers. When the women complained that they could not do their washing he advised them to "wait until it rains." In some of the camps the well was conveniently located on the camp grounds, in others the water had to be carried.

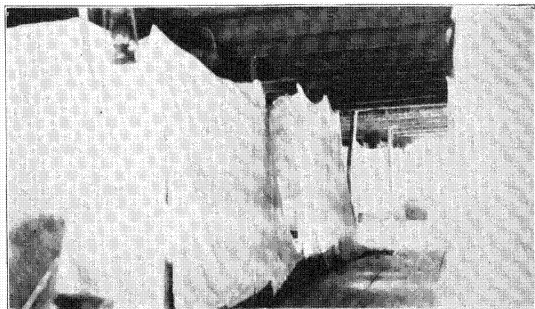
In spite of the unsatisfactory living quarters, criticism of which was often voiced, camp life was considered by some of the workers a vacation, and the fresh air was said to be "good for the children." There were no organized amusements, but the children played games, went in wading in the brooks or swimming in the creeks, used the swings which were occasionally provided by the farmer or the hammocks brought by the families from the city. Mouth organs or accordions furnished music in some camps; one camp had a grafanola, and several young men in two other camps played the violin or banjo. The older children and young people in these camps danced in the evening, folk dances as well as modern dances. Singing, especially of "songs of the old country," was also popular.

To go to Baltimore in the farmer's truck on Saturday for provisions was one of the recreations of older persons. Two farmers, one of whom used a motor boat, allowed the children to accompany their parents to the city "for the ride." On Sunday the fathers who had stayed in town, or other visitors, came out, sometimes bringing food, or newspapers, or candy for the children. Books were very scarce, and less than one-fifth of the families had newspapers. Only two families went to church, but in one camp some of the families went to the woods on Sunday for a religious service. One father who took a "furlough" from his steady job on the railroad every summer said that being in a camp "was the nearest to a picnic that he had."

The farmers excuse the makeshift living arrangements on the score that the season, not more than eight weeks and usually about six, is in the warm weather and so short that housing is of no importance, disregarding the fact that exposure to the possibility of infection through insanitary conditions is a serious matter, however temporary. Moreover, the farmers say that the workers do not object and are accustomed to worse surroundings. One farmer stated that



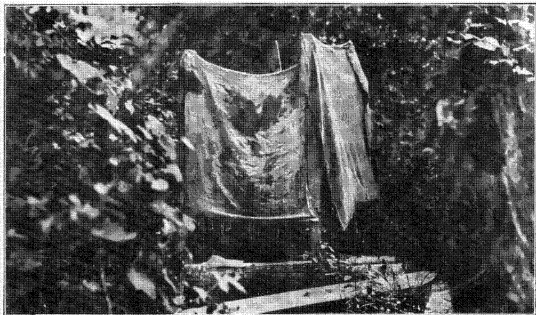
FAMILY SECTIONS IN SEASONAL WORKERS' SHACK, SEPARATED ONLY BY  
BOARDS 10 INCHES HIGH.



INTERIOR OF SHANTY CURTAINED FOR PRIVACY BY THE WORKERS.



BEAN PICKERS.



PRIVY WITH NO PIT, CONSTRUCTED BY THE WORKERS.

he had put up partitions making 52 rooms, but that the families had torn down the partitions. His two-story shanty was 50 feet long and 20 feet wide, so that each partitioned space, besides the entrance passage, could not have been more than 4 by 9 feet. The families told the agent they had felt suffocated in such close quarters and had had to get air at all costs.

Although undoubtedly some families were indifferent to the promiscuous sleeping conditions and none appeared to fear polluted drinking water, criticism was heard both of the lack of toilets and the overcrowding and lack of privacy. Those who had been to the "tomato country" compared the two places. "There each family has their own shack, two rooms and a stove, like in Baltimore; here we are like fish in a barrel." One mother who had four rooms in the city said to the bureau agent, "We got to like it. People like separate rooms, but farmer he say too much expenses." Others spoke of the difficulty of changing their clothes in the woods, which were full of people. One of the row bosses expressed himself in broken English: "Women, boys, and girls sleep all together. No good." Another family said that their children learned bad habits from the others and that, although lack of employment had caused them to come to the farm this year, they would not try it again. The desire to earn a little extra money seems to have influenced a great many families. "It was the last piece of bread that made me do it," said one mother. Many families described the way in which they lived as "like hogs," "like sheep," and "like cattle beasts."

#### CHILDREN'S WORK ON TRUCK FARMS.<sup>15</sup>

In the white migratory families 136 boys and 126 girls did field work. They were on the average older than resident children working on truck farms in the neighborhood. Of the latter 29 per cent were under 10 years of age, whereas only 14.5 per cent of the migratory child workers were less than 10 years of age. Older children predominated; two-thirds were in age groups from 12 to 15 years of age, inclusive. The labor of young children, who help their parents on small farms by picking beans and putting them in the baskets of their mothers or older brothers, is not of sufficient commercial value to be used on the large farms. The children of seasonal workers were not considered old enough to work until they could "carry a row," though on one farm the row boss had assigned two younger children to a row.

The work is usually the same as that done by adult seasonal workers in the area—picking beans, peas, or strawberries. (Table 11.) Approximately the same proportions of mothers and children included in the study had worked on the three crops; over nine-

<sup>15</sup> The following discussion excludes 6 negro migratory workers found in the area.

tenths of both groups had picked beans, more than four-fifths had picked strawberries, and about three-fourths had picked ~~peas~~. Only a few children reported any other type of work; 23 reported weeding at some time during the previous 12 months; 1 boy reported planting and another transplanting sweet potatoes. Only 11 children had worked on more than three crops.

TABLE 11.—*Crops picked by children in migratory white families, by sex of child; Anne Arundel County.*

Crops picked.	Children under 16 years of age picking each specified crop.					
	Total.		Boys.		Girls.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	262	100.0	136	100.0	126	100.0
Strawberries.....	216	82.4	116	85.3	100	79.4
Beans.....	241	92.0	124	91.2	117	92.9
Peas.....	193	73.7	102	75.0	91	72.2
Tomatoes.....	8	3.1	6	4.4	2	1.6
Cherries.....	1	.4	1	.7	.....	.....

Because of poor crops the hours and days worked were said to be more irregular than usual, and long hours of work were exceptional. As most of the survey was made during the bean season, over four-fifths of the children had picked beans on the day for which hours were reported. The hours of children who did other work, 16 per cent of the total, including children who had picked or weeded strawberries and three who had cultivated beans, were as irregular as those of children who had picked beans, and were usually shorter. The usual length of the working-day was less than 8 hours, one-half of the children reporting less than 6 hours. Although short working-days were the rule, there were some exceptions. One-fifth (20.2 per cent) of the children had worked 8 or more hours on the sample day; 6 per cent, or 9 boys and 6 girls, had worked 11 hours. One of the boys was 8 years and one girl 9 years of age.

These irregular hours, dependent on the state of the weather and the crop, were the hours set by the row boss for the whole camp. With few exceptions children 8 and 10 years of age worked the same hours as older children and adults. Occasionally, however, children went to the field to "scrap a few beans" and then returned to the camp; in one camp, on account of scarcity of work, the children picked only in the morning, while adults picked both morning and afternoon. More freedom was allowed during the season of the survey than was customary, on account of the scarcity of work; most families, however, kept steadily at work.

The hour at which the pickers started work depended partly on the crop. For strawberry picking the hour was later than for beans.

In some camps the row boss called the families as early as 4 or 4.30 a. m. On the sample day for which information regarding hours was secured over half the children (55.3 per cent) had been in the fields before 6 o'clock. In some camps the pickers went to the fields before breakfast, picked two or three hours, returned to the camp for breakfast, picked until noon, and again in the latter part of the afternoon. One row boss reported that the hours on his farm, where there were over 100 workers, were in ordinary seasons 4.30 to 8.30 a. m.; 9.30 a. m. to 12 m.; and 3 p. m. to 6 p. m., but during the season of 1921 the hours were from 4.30 to 8.30 a. m. only.

Not only were the hours irregular, but on some days there was no work. Some of the workers interviewed were discouraged, saying that the crops were so poor that they could not make even their expenses—that is, the cost of their food.

The exact number of hours worked in a week and the amount of work done could not be ascertained from most of the families. The rates paid the workers varied little, though some farmers paid half a cent less for strawberries or 5 cents more for beans. The rates varied slightly also according to whether or not the berries or vegetables were plentiful or scarce. The usual rates were as follows: Strawberries 2 to 2½ cents per quart, beans 25 to 30 a bushel basket, and peas 5 cents more than beans. Weeding was paid for at the rate of 10 cents an hour. The rates for peas and beans were usually 5 cents less than they had been the previous season.

Few families could estimate the amount earned by individual children on the last day worked. The method of payment made separation of individual earnings difficult. When the child or other worker emptied his bushel basket of beans he was given a small brass check. The children's checks were usually held by the parents, and at the end of the week, or, more likely, at the end of the season, the checks were redeemed by the farmer.

The amount earned by the family as a whole on the last working-day before the agent's visit may be seen from Table 12. This table includes only 118 families who picked beans. Daily earnings were low, seldom over \$3, even for families of three and four members. Only 10 families earned as much as \$5 on the sample day; 40 earned less than \$2. The maximum earnings reported were those of a family of four, including the father, that had picked 22½ bushels in 9½ hours and had earned \$6.75.

How much a family could earn in the six weeks of the ordinary season was a question which few families could answer, because of the irregularity of the work during the season in question and the number of days when there was no work. An idea of possible earnings may be obtained from the statement of one family, though whether or not these earnings are typical or more than the usual

amount can not be stated. This family—the man, woman, and girl of 14 years—had earned from May 20 to June 24 the following:

Strawberries (400 quarts).....	\$10. 00
Peas (29 bushels).....	10. 15
Beans (265 bushels).....	79. 50
Total.....	99. 65

TABLE 12.—Amount earned picking beans on the last working-day preceding agent's visit by migratory white families, by number in family picking; Anne Arundel County.

Number in family picking beans.	Migratory white families picking beans.								
	Total.	Amount earned last day of work.							
		Less than \$1.	\$1, less than \$2.	\$2, less than \$3.	\$3, less than \$4.	\$4, less than \$5.	\$5, less than \$6.	\$6 and over.	Not reported.
Total.....	118	10	30	30	12	14	5	5	12
1.....	1	1							
2.....	22	3	9	4	1	1			4
3.....	57	4	13	19	6	4	4	2	5
4.....	23	2	5	5	3	3		2	3
5.....	15		3	2	2	6	1	1	

### SCHOOLING.

Part of the picking season for which migratory workers are engaged, unfortunately coincides with the last month or six weeks of the school term. Through the generous cooperation of the Baltimore school authorities the Children's Bureau was able to secure statistics from the schools thought to be most affected by the exodus, showing the number of children leaving before the end of the term in order to work on farms. Although it is believed that the reports from some of the schools were not complete, nevertheless 523 children from these schools were reported to have left for farm work between March 26 and June 18, 1921, 376 having withdrawn during the weeks ending May 14 and May 21. The farms to which these children were said to have gone were in most cases located near Baltimore, in Anne Arundel County.

All the 246 school children included in the present study, with 3 exceptions, reported that they attended schools in Baltimore. All except 3 of the 16 children who had not been in school during the school year 1920-21 were under 8 or were over 14 years of age and so exempt, provided they were regularly employed, from the provisions of the compulsory school attendance law of Baltimore.<sup>16</sup> No

<sup>16</sup> The compulsory school attendance law for the city of Baltimore is slightly different from the attendance law for the counties. (See p. 17.) At the time of the study all children between 8 and 14 years of age were required to attend the entire school term unless legally excused (see p. 17, footnote 7) or unless physically or mentally incapacitated. (Maryland State Laws, acts of 1916, ch. 506.) The law was amended in 1922 (ch. 474) to include children 7 years of age.



child who had left a Baltimore school had entered school in Anne Arundel County. The younger children in these families generally attended parochial schools, entering the public schools only after they had been confirmed at the age of 11 or 12. Three-fifths of the children reported that they attended parochial schools, proportionately twice as many as attended public schools. The public-school term, usually longer than that of the parochial schools, was in 1920-21 from September 14 to June 24, 191 days. The length of the terms in six parochial schools attended by most of the children was from 166 to 185 days, the closing day being usually either June 14 or June 17.

The length of absence caused by leaving the city for field work may be seen in Table 13. Nine-tenths of the children left school at least 20 days before the end of the term; three-fourths withdrew 20 but less than 30 days before the close of school. From 4 to 6 weeks, therefore, was the usual amount of time lost for withdrawals for field work on truck farms. No child can well afford to lose as much schooling as this every year, but the loss is especially disastrous to school progress in the case of those children who are handicapped from the beginning by the fact that their parents are illiterate and do not speak the language of the country. The custom of the Polish parochial schools of giving time to the teaching of the Polish language probably also places many children at a disadvantage when, at the age of 12 or 13, they enter public school.

The result of irregular attendance is that a large majority of the children fail to pass from grade to grade at the normal rate, and so either spend several years longer on elementary-school work than they should or else leave school before completing the elementary grades. Of the children between 8 and 16 years of age included in the study, 69 per cent were retarded in school. (Table 14.) This rate of retardation is much higher than average rates for city children of various ages.<sup>17</sup> Thus, according to these rates, of the 51 child workers between the ages of 10 and 12 years migrating from Baltimore, 12 would have been retarded rather than 25, the number reported to be below average grades for their age, and of 88 of the Baltimore children between 12 and 14 years of age, 30 instead of 68 would have been retarded.

---

<sup>17</sup> See p. 20.

TABLE 13.—*Number of days lost at end of term by children in migratory white families, by type of school attended; Anne Arundel County.*

Type of school attended.	Children between 6 and 16 years of age for whom number of days school attendance was reported.							
	Total.	Number of days lost by withdrawing before end of term.						
		10 days, less than 15.	15 days, less than 20.	20 days, less than 25.	25 days, less than 30.	30 days, less than 40.	40 days, less than 50.	Not reported.
Total.....	143	3	7	66	37	23	1	6
Public.....	55	.....	.....	9	27	18	.....	1
Parochial.....	88	3	7	57	10	5	1	5

TABLE 14.—*Retardation of children in migratory white families, by age of child; Anne Arundel County.*

Age of child. <sup>1</sup>	Children between 8 and 16 years of age.														
	To- tal.	Retarded.								Normal.		Advanced.		Not reported.	
		Total.		1 year.		2 years.		3 years and over.							
		Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>	Num- ber.	Per ct. <sup>2</sup>
Total.....	238	163	68.5	47	19.7	53	22.3	63	26.5	69	29.0	2	0.8	4	1.7
8 years, under 10.....	26	5	.....	5	.....	.....	.....	.....	.....	20	.....	1	.....	.....	.....
10 years, under 12.....	51	25	49.0	16	31.4	8	15.7	1	2.0	26	51.0	.....	.....	.....	.....
12 years, under 14.....	88	68	77.3	21	23.9	26	29.5	21	23.9	19	21.6	1	1.1	.....	.....
14 years, under 16.....	73	65	89.0	5	6.8	19	26.0	41	56.2	4	5.5	.....	.....	4	5.5

<sup>1</sup>Age as of Sept. 1, 1921.<sup>2</sup> Not shown where base is less than 50.

## CHILD WORKERS ON EASTERN SHORE TRUCK FARMS.

It was customary on the Eastern Shore truck farms for the children of the household to help with the farm work. Of the children between 6 and 16 enrolled in the schools of the areas included in the survey and reporting on the inquiry, 87 per cent of the white and 95 per cent of the negro had worked on truck farms during the preceding year.<sup>18</sup> Eight hundred and thirty-eight children, half of whom were girls, reported having worked on truck farms within the year preceding the inquiry.

### THE WORKERS' FAMILIES.

The children working in the Eastern Shore areas were almost entirely of native white or negro parentage. The three counties studied have not been touched by recent immigrations; the percentage of foreign-born inhabitants in 1920, according to United States Census figures, was one-half of 1 per cent. In the 204 white families visited only two fathers had been born in foreign countries, one in Germany and one in England. One hundred and ninety-six negro families, almost as many as white, were included in the study, though negroes form somewhat less than one-third of the total population of the three counties. The disproportionately large number of negro families is due in part to the somewhat larger proportion of negro children in the area working on farms, in part also to the fact that the transient families coming in for seasonal work were negroes, and to some extent, perhaps, to the fact that the negro school districts corresponding roughly to the white school districts chosen for study included children from a larger territory than did the white school districts.

The great majority of the workers—four-fifths (82 per cent) of the white and three-fifths (62.1 per cent) of the negro—were children of farm owners and tenants; but 17.5 per cent of the white and 27 per cent of the negro were hired hands, most of whom lived within walking distance of the farms where they were employed, and a few, 5.7 per cent of the total, were children of negro migratory workers brought into the neighborhood for seasonal work. (Table 15.) Many of the farmers' children—those in over one-fourth of the white families and in nearly three-fourths of the negro families—worked as hired hands as well as on their fathers' farms.

---

<sup>18</sup> This information was obtained by visiting all children who were enrolled in the schools. Sixty white and 41 negro children did not report as to whether or not they had done farm work.

The majority, three-fifths, of the white children's fathers owned their farms.<sup>19</sup> Only one-third of the negro fathers, on the other hand, were farm owners. The same proportion of white and negro families, one-fifth, were farm tenants, owning no land of their own and farming as a rule on "shares"; that is, giving the landlord a percentage of their crop. Most of the fathers of the 70 white children who hired out as farm hands were not farm laborers, but those of the 119 negro children, with few exceptions, did farm work in addition to fishing, oystering, or work in other local industries. Most of the 50 migratory child laborers came from the adjacent counties, a few from near-by islands, and were housed on the farms where they worked.

TABLE 15.—*Working status of children in families interviewed, by sex and race; Eastern Shore.*

Working status of child.	Children under 16 years of age.					
	Total.		White.		Negro.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	840	100.0	399	100.0	441	100.0
Resident laborer.....	790	94.0	397	99.5	393	89.1
Home farm.....	601	71.5	327	82.0	274	62.1
Farm owned.....	408	48.6	229	57.4	179	40.6
Farm rented.....	193	23.0	98	24.6	95	21.5
Other farm.....	189	22.5	70	17.5	119	27.0
Migratory laborer.....	50	6.0	2	.5	48	10.9
Boys.....	415	100.0	201	100.0	214	100.0
Resident laborer.....	391	94.2	200	99.5	191	89.3
Home farm.....	304	73.3	170	84.6	134	62.6
Farm owned.....	204	49.2	121	60.2	83	38.8
Farm rented.....	100	24.1	49	24.4	51	23.8
Other farm.....	87	21.0	30	14.9	57	26.6
Migratory laborer.....	24	5.8	1	.5	23	10.7
Girls.....	425	100.0	198	100.0	227	100.0
Resident laborer.....	399	93.9	197	99.5	202	89.0
Home farm.....	297	69.9	157	79.3	140	61.7
Farm owned.....	204	48.0	108	54.5	96	42.3
Farm rented.....	93	21.9	49	24.7	44	19.4
Other farm.....	102	24.0	40	20.2	62	27.3
Migratory laborer.....	26	6.1	1	.5	25	11.0

While no attempt was made in this study to ascertain the incomes of any of the families, the financial status of the farmers' families can be gauged to some extent by the amount of land and live stock which they owned and the kind of house in which they lived. The small acreage reported by most of the farmers included in the study is characteristic of this area and of some other truck-farming localities also. The farm of from 50 to 100 acres, including truck and general crops, predominated. The white farmers were considerably more

<sup>19</sup> If a farmer owned as much as 3 acres he was classed as an owner although he may also have rented land.

prosperous than the negro, and usually operated larger farms. Of the farm owners and tenants reporting the size of their farms, two-fifths of the white, as compared with nearly nine-tenths of the negro, owned or rented less than 50 acres. Of the white farmers, 8 (7 per cent) owned 200 or more acres, whereas only 1 negro farmer owned as much as 100 acres. This man was much more prosperous than most of his negro neighbors; he owned a six-room, well-built house, an automobile, 2 horses, and a cow. A much larger proportion of white than negro farmers owned cows, farm animals, and automobiles. On the whole, the typical white farmer whose children worked appeared to be in moderate circumstances. The extremes are illustrated by two white farmers, one of whom owned 320 acres, a house with modern conveniences, including electric light, and an automobile, and who planned to send his 17-year-old daughter to college; the other rented 10 acres, lived in an unscreened, unpainted shack, could not read or write, and set little value on the acquisition of these accomplishments by his children.

The homes of the majority of the white children, whether or not they were children of farmers, were located in a thickly settled farming country where few of the houses were more than an eighth of a mile apart. The houses were usually two or three stories in height, containing from five to eight rooms, and were clapboarded and painted. The front yards were neat and some were bright with flowers. Many of these houses were screened, but other conveniences, such as running water and kitchen sinks, were rare. The houses occupied by negro families, many of which were unpainted and neglected in appearance, were situated in little villages or in groups behind the dwelling of the landowner for whom they worked. Some were surrounded by well-tilled fields, others were in clearings in the woods, corn being planted between the stumps of trees. Most of them were provided with a privy outside the house and a well and pump in the back yard.

Overcrowding among resident families of this area did not present so serious a problem as in the area surveyed in Anne Arundel County. Of the negro families in this area, 29 per cent, as compared with 32 per cent in Anne Arundel County, were crowded at the rate of two or more persons per room. Only 10 per cent of the white families of this locality reported two or more persons per room. (Table 16.) Room congestion among the small group of migratory families included in the present study was, however, more serious than that among residents, as the shacks provided for them by the farmer for the few weeks of their stay on the farm usually contained only from two to four rooms for several families.

Although the parents of practically all the children were native born, in one-fifth of the white families visited at least one parent could not read and write; in six families neither parent was literate. Illiteracy was also reported by one or both of the parents in two-fifths of the negro families living in the area, and was more common among farmers' families than among families whose children worked as hired laborers.

TABLE 16.—Average number of persons per room in resident families, by race; Eastern Shore.

Average number of persons per room.	White families.		Negro families.	
	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	204	100.0	167	100.0
Less than 1.....	80	39.2	27	16.2
1, less than 2.....	103	50.5	91	54.5
2, less than 3.....	16	7.8	38	22.8
3, less than 5.....	4	2.0	9	5.4
5, less than 7.....	1	.5		
7, less than 10.....			1	.6
Not reported.....			1	.6

### CHILDREN'S WORK ON TRUCK FARMS.

Of the resident child workers, white and colored, 78 per cent were under 14 years and 33 per cent were under 10 years of age when interviewed. Only 13 of the 48 negro migratory workers were 14 years of age or over, and 11 were under 10 years of age. Most of the children in the area begin to work on the farms by the time they are 10 years of age. One hundred and two (60 per cent) of the 171 white and negro children who were between 14 and 16 years of age reported that they had started to do farm work before their tenth birthday. The age at beginning work was about the same whether the children belonged to families of farm operators or were hired farm hands. Negro children go to work when somewhat younger than white children, and white boys begin to work at earlier ages than white girls. Negro girls, however, usually go to work at as early ages as their brothers.

### Kinds of work.

Children do various kinds of work on all the truck crops raised in the region. The principal crops are strawberries and Irish and sweet potatoes, but beans, tomatoes, cucumbers, and melons are also extensively grown. Children are also employed on general crops, the most important of which are hay, wheat, and fodder corn. The farmers' children included in the study did a greater variety of work

than those who were hired by the day, although hired hands whose homes were in the district were, like farmers' children, employed for both harvesting and for general farm work, such as hoeing.

The migratory workers had been hired only for strawberry picking. Normally large numbers are engaged for the three or four weeks of the strawberry season, but relatively few migratory laborers were hired for the work in 1921, the year of the survey, on account of the poor strawberry crop. The children in seasonal workers' families interviewed were all employed, regardless of their ages, at picking strawberries. Whether they worked every day during the three weeks or so of their stay on the farm and whether the hours they worked were long or short depended on the weather and the state of the crop. Twenty-two of the 48 negro children reporting had worked eight or more hours in the field on the last working-day preceding the interview. Because the numbers are too small to draw any general conclusions, they are not included in the following discussion of the work done by children on the truck farms of the area.

Practically all the children who do field work help at harvesting time. More than four-fifths of the total number interviewed reported strawberry picking, a large proportion—one-half the white and three-fifths of the negro children—reported gathering Irish or sweet potatoes, and smaller numbers had picked tomatoes, blackberries, beans, cucumbers, or melons, crops not so widely grown in this locality. (Tables 17 and 18.) The younger as well as the older children pick strawberries, and many of them also gather potatoes. All the 23 children under 6 years of age who reported working in the fields, including a 3-year-old negro child and 9 white and negro children 4 years of age, had picked strawberries, which was the only work done by most of them. No children under 6 had gathered potatoes, but more than one-third of the 238 white and negro children who were between 6 and 10 years of age reported this work. (Table 18.)

Although picking tomatoes, melons, and cucumbers is somewhat more difficult work for children than picking strawberries or gathering potatoes,<sup>20</sup> 19 per cent of the total number had picked tomatoes, 11 per cent cucumbers, and 8 per cent melons. Most of these children were 10 years of age or more, but 34 of the 152 children who picked tomatoes and 15 of the 86 children who picked cucumbers were under 10 years of age.

---

<sup>20</sup> See p. 9.

TABLE 17.—*Crops picked by children in resident families, by sex and race; Eastern Shore.*

Crops picked, and sex.	Children under 16 years of age picking each specified crop.					
	Total.		White.		Negro.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	790	100.0	397	100.0	393	100.0
Strawberries.....	659	83.4	319	80.4	340	86.5
Beans.....	111	14.1	35	8.8	76	19.3
Peas.....	8	1.0	.....	.....	8	2.0
Tomatoes.....	152	19.2	92	23.2	60	15.3
Cucumbers.....	86	10.9	31	7.8	55	14.0
Melons.....	61	7.7	30	7.6	31	7.9
Blackberries, raspberries, and huckleberries.....	128	16.2	51	12.8	77	19.6
Other fruits and vegetables.....	4	.5	2	.5	2	.5
Boys.....	391	100.0	200	100.0	191	100.0
Strawberries.....	309	79.0	153	76.5	156	81.7
Beans.....	53	13.6	17	8.5	36	18.8
Peas.....	3	.8	.....	.....	3	1.6
Tomatoes.....	82	21.0	50	25.0	32	16.8
Cucumbers.....	47	12.0	16	8.0	31	16.2
Melons.....	40	10.2	18	9.0	22	11.5
Blackberries, raspberries, and huckleberries.....	45	11.5	17	8.5	28	14.7
Other fruits and vegetables.....	3	.8	2	1.0	1	.5
Girls.....	399	100.0	197	100.0	202	100.0
Strawberries.....	350	87.7	166	84.3	184	91.1
Beans.....	58	14.5	18	9.1	40	19.8
Peas.....	5	1.3	.....	.....	5	2.5
Tomatoes.....	70	17.5	42	21.3	28	13.9
Cucumbers.....	39	9.8	15	7.6	24	11.9
Melons.....	21	5.3	12	6.1	9	4.5
Blackberries, raspberries, and huckleberries.....	83	20.8	34	17.3	49	24.3
Other fruits and vegetables.....	1	.3	.....	.....	1	.5

Carrying hampers of tomatoes and cucumbers makes the work hard for young children. Cantaloupes and watermelons are also heavy to handle. In harvesting cantaloupes the children's work on the Eastern Shore consists in picking melons up from the ground and putting them into a hamper, which is usually, though not always, carried off the field by an adult. Watermelons are rolled out into the row by children and are then collected by the driver of a wagon which is driven across the fields.

Children of all ages, girls as well as boys, did some kinds of planting and transplanting. Two hundred and eighty children, nearly one-half the boys and one-fourth of the girls, reported planting one or more crops. (Tables 18 and 19.) Of these children three-fourths had planted or replanted corn, over one-fourth had planted Irish potatoes, and one-sixth melons or cucumbers. Planting potatoes by hand and the second planting of corn are, it will be remembered, simple operations which can be done by young children, but the operation of the hand and the machine corn planters, the latter in general use on the Eastern Shore farms, is more difficult. Information was not obtained, except in a few instances, as to whether the children did machine or hand planting.



TABLE 18.—*Ages of children in resident families doing each specified kind of field work, by race; Eastern Shore.*

Kind of field work, and race.	Children under 16 years of age doing each specified kind of field work.											
	Total.	Under 8 years.		8 years, under 10.		10 years, under 12.		12 years, under 14.		14 years, under 16.		Age not reported.
		Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	Number.	Per cent. <sup>1</sup>	
White.....	397	58	14.6	70	17.6	82	20.7	98	24.7	89	22.4	.....
Plowing.....	79	.....	.....	3	3.8	16	20.3	27	34.2	33	41.8	.....
Harrowing.....	63	.....	.....	1	1.6	12	19.0	24	38.1	26	41.3	.....
Planting.....	161	11	6.8	22	13.7	36	22.4	47	29.2	45	28.0	.....
Cultivating.....	96	.....	.....	3	3.1	18	18.7	39	40.6	36	37.5	.....
Hoing.....	181	7	3.9	20	11.0	42	23.2	52	28.7	60	33.1	.....
Weeding.....	66	5	7.6	8	12.1	19	28.8	21	31.8	13	19.7	.....
Spraying.....	20	1	.....	1	.....	2	.....	5	.....	11	.....	.....
Transplanting.....	156	13	8.3	23	14.7	31	19.9	51	32.1	39	25.0	.....
Thinning.....	102	6	5.9	13	12.7	25	24.5	29	28.4	29	28.4	.....
Picking.....	352	48	13.6	64	18.2	70	19.9	93	26.4	77	21.9	.....
Gathering potatoes.....	199	14	7.0	29	14.6	45	22.6	57	28.6	54	27.1	.....
Shucking or husking corn.....	40	1	.....	5	.....	5	.....	13	.....	16	.....	.....
Saving fodder <sup>2</sup> .....	141	8	5.7	22	15.6	33	23.4	41	29.1	37	26.2	.....
Negro.....	393	68	17.3	65	16.5	89	22.6	87	22.1	82	20.9	2
Plowing.....	72	.....	.....	.....	.....	16	22.2	24	33.3	32	44.4	.....
Harrowing.....	47	.....	.....	.....	.....	9	.....	19	.....	19	.....	.....
Planting.....	119	5	4.2	8	6.7	30	25.2	37	31.1	39	32.8	.....
Cultivating.....	55	.....	.....	1	1.8	12	21.8	19	34.5	23	41.8	.....
Hoing.....	196	12	6.1	17	8.7	48	24.5	61	31.1	57	29.1	1
Weeding.....	85	6	7.1	7	8.2	21	24.7	30	35.3	21	24.7	.....
Spraying.....	7	.....	.....	1	.....	.....	.....	1	.....	5	.....	.....
Transplanting.....	186	15	8.1	21	11.3	51	27.4	50	26.9	48	25.8	1
Thinning.....	83	7	8.4	9	10.8	21	25.3	25	30.1	21	25.3	.....
Picking.....	361	63	17.5	61	16.9	83	23.0	78	21.6	74	20.5	2
Gathering potatoes.....	230	14	6.1	28	12.2	56	24.3	69	30.0	63	27.4	.....
Shucking or husking corn.....	32	.....	.....	1	.....	9	.....	13	.....	9	.....	.....
Saving fodder <sup>2</sup> .....	140	7	5.0	17	12.1	32	22.9	46	32.9	38	27.1	.....

<sup>1</sup> Not shown where base is less than 50.<sup>2</sup> Includes pitching and stacking.

A large proportion of children, one-half the boys and over one-third of the girls, 342 in all, did one or more kinds of transplanting. (Tables 18 and 19.) Most of the children transplanted strawberries or sweet potatoes, or both, and some transplanted tomatoes. Nearly one-half the children reporting such work were under 12 years of age and one-fifth were under 10 years. The children under 10 years of age were likely to have dropped strawberry plants by hand, and many of the older children had both dropped and set strawberry plants.<sup>21</sup> Almost all the children who reported strawberry transplanting had done the work by hand, but those who reported transplanting sweet potatoes or tomatoes were likely to have worked with either a hand transplanter or the transplanting machine, which is widely used in this locality. An adult usually drives the transplanting machine, which is drawn by a team of horses, while two boys, known as feeders, sit on the machine on a platform almost level with the ground and drop the plants alternately at the proper intervals.

<sup>21</sup> For a description of hand dropping and setting see p. 12.

To keep up with the machine continual attention and rapid work are necessary.<sup>22</sup> The task is also disagreeable; as one boy said, "You sit all the time with your legs stretched out in front of you and they cramp, but there is no way to change your position. You are so near the ground that in dry weather the dust almost chokes you."

Twenty-three children reported that they had worked on transplanting machines, but it is probable that the total number was much larger. As many children did not specify whether they did machine or hand dropping or whether they dropped or set plants, the exact numbers can not be given.

Although children of all ages and of both sexes did picking and some of the younger as well as the older did planting and transplanting, few except older boys plowed, harrowed, or did cultivating with a machine. (Table 18.) Hoeing, weeding, and thinning were the only kinds of general work done to any extent by girls and children under 10 years of age. Hoeing was reported by 38 per cent of the white and by 43 per cent of the negro girls; over one-third of the boys of each race, but less than 2 per cent of the girls, reported plowing; about the same proportion of girls, but smaller proportion of boys, reported harrowing; a large proportion of boys reported cultivating. These operations require physical strength and knowledge of how to manage a horse or mule. The driver of the one-share plow still in general use on the Eastern Shore must be sufficiently heavy to hold down the plow as well as strong and skillful enough to guide it. Boys less than 11 years of age, unless they are unusually large for their age, are not strong enough to manage these plows. Of the 146 boys who reported plowing only 3, or 2 per cent, were under 10 years of age and more than three-fourths were 12 years of age or older. Few boys under 12 operated cultivating machines, although one 8-year-old boy was seen who was said to guide the cultivator as well as a man.

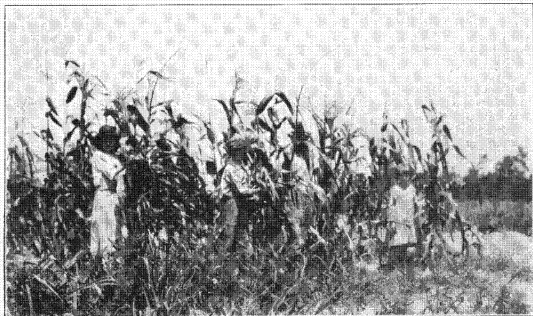
Besides these kinds of work children do a variety of other work on both truck and general crops. One-tenth of those included in the study were employed at shucking and husking corn, and over two-fifths of the boys and one-fourth of the girls did the work locally known as "saving fodder"; that is, cutting and tying the leaves and tops of cornstalks for drying after the ears have been shucked. Smaller numbers of children shocked wheat, cut hay, followed the plow to pick out loosened stubble, packed tomatoes and cantaloupes, sorted potatoes, cut off strawberry buds, picked off bugs from potato vines, or did other miscellaneous work.

The boys in farmers' families, both white and negro, were usually employed at a great variety of work, and the negro girls in farmers' families did more different kinds of work than the white girls. The

<sup>22</sup> Sweet Potato Growing, p. 19. U. S. Department of Agriculture, Farmers' Bulletin 999, Washington, 1919.



TURNING SWEET POTATO VINES BACK INTO ROWS BEFORE CULTIVATING.



CUTTING CORN.



work experiences of children who had done a variety of jobs may be illustrated by those of two of the children visited. One negro girl of 12 reported that in April and May she "drew" strawberry plants from the old beds, transplanted sweet potatoes, weeded Irish potatoes, hoed and picked strawberries, and replanted corn. In June and July she picked beans, hoed, and gathered Irish potatoes; in August picked tomatoes; and in September and October picked up potatoes and "saved" corn fodder. A white boy of 14—besides picking strawberries, tomatoes, and potatoes—cut hay, hoed several different crops, and drove a cultivating machine.

TABLE 19.—*Kinds of field work done by children in resident families, by sex and race; Eastern Shore.*

Kind of field work, and sex.	Children under 16 years of age doing each specified kind of field work.					
	Total.		White.		Negro.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	790	100.0	397	100.0	393	100.0
Plowing.....	151	19.1	79	19.9	72	18.3
Harrowing.....	110	13.9	63	15.9	47	12.0
Planting.....	280	35.4	161	40.6	119	30.3
Cultivating.....	151	19.1	96	24.2	55	14.0
Hoing.....	377	47.7	181	45.6	196	49.9
Weeding.....	151	19.1	66	16.6	85	21.6
Spraying.....	27	3.4	20	5.0	7	1.8
Transplanting.....	342	43.5	156	39.3	186	47.3
Thinning.....	185	23.4	102	25.7	83	21.1
Picking.....	713	90.3	352	88.7	361	91.9
Gathering potatoes.....	429	54.3	199	50.1	230	58.5
Shucking or husking corn.....	72	9.1	40	10.1	32	8.1
Saving fodder <sup>1</sup> .....	281	35.6	141	35.5	140	35.6
Boys.....	391	100.0	200	100.0	191	100.0
Plowing.....	146	37.3	77	38.5	69	36.1
Harrowing.....	103	26.3	59	29.5	44	23.0
Planting.....	182	46.5	105	52.5	77	40.3
Cultivating.....	143	36.6	90	45.0	53	27.7
Hoing.....	216	55.2	107	53.5	109	57.1
Weeding.....	97	24.8	44	22.0	53	27.7
Spraying.....	22	5.6	16	8.0	6	3.1
Transplanting.....	195	49.9	95	47.5	100	52.4
Thinning.....	121	30.9	70	35.0	51	26.7
Picking.....	341	87.2	171	85.5	170	89.0
Gathering potatoes.....	240	61.4	121	60.5	119	62.3
Shucking or husking corn.....	54	13.8	32	16.0	22	11.5
Saving fodder <sup>1</sup> .....	172	44.0	88	44.0	84	44.0
Girls.....	399	100.0	197	100.0	202	100.0
Plowing.....	5	1.3	2	1.0	3	1.5
Harrowing.....	7	1.8	4	2.0	3	1.5
Planting.....	98	24.6	56	28.4	42	20.8
Cultivating.....	8	2.0	6	3.0	2	1.0
Hoing.....	161	40.4	74	37.6	87	43.1
Weeding.....	54	13.5	22	11.2	32	15.8
Spraying.....	5	1.3	4	2.0	1	.5
Transplanting.....	147	36.8	61	31.0	86	42.6
Thinning.....	64	16.0	32	16.2	32	15.8
Picking.....	372	93.2	181	91.9	191	94.6
Gathering potatoes.....	189	47.4	78	39.6	111	55.0
Shucking or husking corn.....	18	4.5	8	4.1	10	5.0
Saving fodder <sup>1</sup> .....	109	27.3	53	26.9	56	27.7

<sup>1</sup> Includes stacking and pitching

### The length of the working-day.

The same marked differences between children of different ages and sexes evident in the kinds of work done were also shown by the number of hours they had worked. Negro children, though their work was not very different from that of white children, worked on the whole longer hours; younger children and white girls tended to work a shorter day than other groups.

As the survey was made during the strawberry season, a very large number had picked strawberries on the day for which information was secured, the last working-day before the agents' visit. This fact should be remembered when studying Table 20, as the children who had picked strawberries reported a somewhat shorter working-day than those who had done other truck-farm work.

TABLE 20.—*Field hours of children in resident families on the last working-day previous to agent's visit, by age and race; Eastern Shore.*

Field hours on a typical working-day, and race.	Children under 16 years of age doing field work.											
	Total.		Under 8 years of age.		8 years, under 10.		10 years, under 12.		12 years, under 14.		14 years, under 16.	
	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.	Num-ber.	Per cent dis-tribu-tion.
White.....	397	100.0	58	100.0	70	100.0	82	100.0	98	100.0	89	100.0
Less than 4 hours....	79	19.9	18	31.0	15	21.4	20	24.4	13	13.3	13	14.6
4 hours, less than 6....	88	22.2	15	25.9	13	25.7	15	18.3	22	22.4	18	20.2
6 hours, less than 8....	61	15.4	8	13.8	12	17.1	12	14.6	13	13.3	16	18.0
8 hours, less than 9....	42	10.6	4	6.9	5	7.1	10	12.2	13	13.3	10	11.2
9 hours, less than 10....	46	11.6	3	5.2	10	14.3	10	12.2	11	11.2	12	13.5
10 hours, less than 12....	50	12.6	2	3.4	5	7.1	9	11.0	20	20.4	14	15.7
12 hours, less than 14....	2	.5							1	1.0	1	1.1
Not reported.....	29	7.3	8	13.8	5	7.1	6	7.3	5	5.1	5	5.6
Negro.....	1393	100.0	68	100.0	65	100.0	89	100.0	87	100.0	82	100.0
Less than 4 hours <sup>1</sup> ....	43	10.9	11	16.2	10	15.4	8	9.0	8	9.2	4	4.9
4 hours, less than 6....	64	16.3	8	11.8	13	23.1	16	18.0	16	18.4	9	11.0
6 hours, less than 8....	75	19.1	9	13.2	10	15.4	19	21.3	14	16.1	23	28.0
8 hours, less than 9....	45	11.5	7	10.3	8	12.3	9	10.1	12	13.8	9	11.0
9 hours, less than 10....	50	12.7	2	2.9	6	9.2	14	15.7	15	17.2	13	15.9
10 hours, less than 12....	79	20.1	12	17.6	9	13.8	19	21.3	20	23.0	19	23.2
12 hours, less than 14....	7	1.8	2	2.9	1	1.5			1	1.1	3	3.7
Not reported.....	30	7.6	17	25.0	6	9.2	4	4.5	1	1.1	2	2.4

<sup>1</sup> Includes 2 children for whom age was not reported.

White children who worked on the home farm worked on the average shorter hours and less regularly than those who hired out. Forty-four per cent of the former reported that they worked less than 6 hours a day in the field, as compared with 33 per cent of the 70 children who worked out by the day. Six to 8 hours was the usual working-day of the latter group. The distinction between negro children in these two groups is not so clear, because so large a proportion of negro farmers' children also worked by the day for farmers

other than their parents. White children usually worked a shorter day than negro children, as Table 20 shows. The considerable number of children of both races who worked long hours should be noted; over one-third (37.5 per cent) of the negro children reporting had worked in the fields 9 or more hours, and 14 per cent of the white children and 23.7 per cent of the negro children had worked as much as 10 hours or more on the day preceding the inquiry.

White girls worked shorter hours than white boys. Thus, 42 per cent of the boys but only 10 per cent of the girls, reporting the length of their day in the field, had worked 9 or more hours. White and negro boys from 12 to 16 years of age had the longest working-day. Of the boys 12 and 13 years of age 53 of the 99 had worked 9 or more hours and 35 had worked 10 or more hours. Of the 85 boys 14 and 15 years of age reporting hours, 41 had worked 9 or more hours and 25 had worked 10 or more.

The number of hours worked by children under 10 years of age was difficult to obtain accurately. The mothers of some of these young children, obliged to work in the field themselves, often took their children to the fields in order to look after them. Usually the children "picked a while and played a while," though occasionally they were kept steadily at work. In the age groups under 10 years were 128 white and 133 negro children who reported field work. Although a large group reported working less than 8 hours on the day preceding the agent's visit, 29 white children and 47 negro had worked 8 or more hours. (See Table 20.)

In addition to field work, nearly nine-tenths (88.2 per cent) of the girls did housework. Seven-tenths (71.4 per cent) of the boys worked at chores. Two-thirds of the boys who reported chores cared for stock, and one-fourth did milking; girls were more likely to feed chickens than to do any other kind of chore, but a few helped with the milking. Fewer negro than white children did chores, for negro families did not own as much live stock. When chores and housework are taken into consideration the total number of hours worked by the children is much longer than the hours they worked in the fields and the difference between the working-day of boys and girls is less marked. A large group of children worked at field work, chores, and housework combined between 10 and 12 hours a day. Of 114 white children in age groups under 10 years reporting on this point, 24 per cent had worked 9 hours or more; of the 248 in age groups from 10 to 15, inclusive, 46 per cent had worked 9 or more hours. A little girl of 10, for example, said that the day before the interview she had picked strawberries from 7 a. m. to 12 and from 3 p. m. to 6.30 p. m., besides doing housework and chores for 3 hours.

### Duration of work.

Inquiry was made in this area as to the duration of field work during the year preceding the inquiry. Of 290 children 10 years of age and older who reported on this point, over three-fifths (61.7 per cent) had worked at least 30 days, not necessarily consecutively, and nearly two-fifths (37.2 per cent) had worked 60 or more days. Children under 10 years of age, on the other hand, usually worked less than a month, many of them less than 2 weeks, over four-fifths reporting that they had worked less than 30 days. (Table 21.) Some children, especially those over 12 years of age, reported working long periods such as 3 or 4 months. That children under 10 years of age are likely to work only a few days, while the older children work several months, is clearly illustrated by the reports of children in the same family. The 15-year-old boy in one colored family of 7 children reported working 6 months, including several days in February and October. His 14-year-old sister and his two brothers, aged 12 and 9, had each worked 3½ months; a sister 7 years of age had worked 20 days, and 4-year-old twins 2 days.

TABLE 21.—*Duration of field work of children in resident families, by age and race; Eastern Shore.*

Age and race.	Children under 16 years of age reporting duration of field work.										
	To- tal.	Under 1 month.				1 month, under 2.	2 months, under 3.	3 months, under 4.	4 months, under 5.	5 months, under 6.	6 months and over.
		To- tal.	Under 1 week.	1 week, under 2.	2 weeks, under 1 month						
White.....	218	132	60	26	46	38	13	17	10	2	6
Under 6 years.....	5	5	3	.....	2	.....	.....	.....	.....	.....	.....
6 years, under 8..	32	27	18	3	6	3	1	1	.....	.....	.....
8 years, under 10.	42	31	14	9	8	8	2	.....	.....	.....	.....
10 years, under 12	43	24	6	8	10	9	1	7	1	.....	.....
12 years, under 14	43	25	10	5	10	7	4	3	3	1	.....
14 years, under 16	53	20	9	1	10	11	5	6	4	1	6
Negro.....	227	105	23	16	66	49	22	20	19	8	4
Under 6 years.....	4	4	2	.....	2	.....	.....	.....	.....	.....	.....
6 years, under 8..	31	29	12	6	11	1	1	.....	.....	.....	.....
8 years, under 10.	41	30	5	4	21	4	3	3	1	.....	.....
10 years, under 12	53	24	3	5	16	14	6	6	3	.....	.....
12 years, under 14	51	14	1	1	12	13	7	6	7	3	1
14 years, under 16	47	4	.....	.....	4	17	5	5	8	5	3

### Earnings.

Hired children who pick strawberries, tomatoes, and other vegetables receive the rates current for the work, which are about the same for different farms. Children as well as adults received, as a rule, 3 cents a box for strawberries, 25 to 30 cents for a bushel basket of beans, and 4 to 5 cents for a five-eighths bushel of tomatoes. The amount children of the same age could earn at picking strawberries, for instance, was variable, depending on the speed with which they worked. The earnings of 12-year-old children working



an 8-hour day varied from 90 cents for 30 quarts of strawberries to \$3 for 100 quarts. For hoeing and other general work children were paid by the hour, the rate depending on the individual farmer and the age of the child. Children under 12 years usually received from 10 to 15 cents an hour; that is, from 80 cents to \$1.20 for an 8-hour day. Children 12 years of age and over received 15 or 20 cents an hour. The large proportion of children who worked only on the home farm usually received no wages, though sometimes a father said that he paid his children the current rate for strawberry picking. Parents considered their children's work of considerable economic importance. Two farmers, for instance, said that because they could not afford to hire "help" they were obliged to keep their children out of school. One of these had kept his two children of 10 and 13 years out of school to work in the fields for 20 and 66 days, respectively.

#### FARM WORK AND SCHOOLING.

Children included in the Eastern Shore study, like those in Anne Arundel County, were found to have lost considerable schooling on account of absences for farm work. It was, however, encouraging to find that the children in this area remained in school well into their teens. Practically all the children, both white and negro, were enrolled in school. Of those who were between 7 and 15 years of age, only 2 white and 14 negro children were not attending school; most of these children lived at least  $2\frac{1}{2}$  miles from school, but they were not exempt, as in some States, from the compulsory school law. Of the 15-year-old children, only  $\frac{1}{4}$  white and 3 negro had withdrawn from school, probably because of the requirement that children of this age must attend until the completion of the elementary grades and the fact that their progress in school had been slow.

Although most of the children were in school their progress was seriously interfered with by frequent and prolonged absences, one of the most important causes of which was the work which they did in the fields. Of 306 white children reporting on this point nearly three-fourths (74.2 per cent) had been absent from school for farm work. (Table 22.) Fifty-nine white children, one-fifth of the total number reporting, had stayed out of school for this purpose 30 or more days; that is, 6 or more school weeks. Twenty-two of these children, 21 of whom were farmers' children, had been kept out of school for work on the farm 60 or more school days during the year. One of these was an 11-year-old girl; the others, who were boys, were with three exceptions 12 years of age or older. One farmer, for example, who had kept his two boys aged 13 and 10 from school 79 and 34 days, respectively, stated that the older was kept out of

school longer, as he was strong enough to use the plow, harrow, and cultivator. A smaller proportion of negro than white children, probably because the negro schools closed before the first of May, gave farm work as the cause of absence. Over one-half (53 per cent) of the 290 negro children reporting had been out of school for farm work; 12 per cent stated that they had stayed out 20 or more days or 4 or more school weeks on this account; 6 per cent had stayed out 30 or more days, or 6 school weeks. Most of the 124 children (white and negro) absent 20 or more days were at least 12 years of age, but only 42 were 14 or over.

TABLE 22.—*Absence from school on account of field work of children in resident families, by race; Eastern Shore.*

Absence from school on account of field work.	Children between 6 and 16 years of age attending school.					
	Total.		White.		Negro.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	734		377		357	
Reporting as to absence: Total.....	596	100.0	306	100.0	290	100.0
No absence for field work.....	215	36.1	79	25.8	136	46.9
Less than 10 days.....	189	30.7	106	34.6	77	26.6
10 days, less than 20.....	74	12.4	34	11.1	40	13.8
20 days, less than 30.....	48	8.1	28	9.2	20	6.9
30 days, less than 40.....	26	4.4	17	5.6	9	3.1
40 days, less than 80.....	26	6.0	20	9.5	7	2.4
80 days and over.....	14	2.3	13	4.2	1	0.3
Not reporting.....	138		71		67	

Whether or not the absences for farm work were illegal depends, it will be remembered,<sup>23</sup> on the age of the child and on the number of days he had attended school. The 100-day provision undoubtedly created confusion in the minds of parents and furnished some who wished to keep their younger children out of school for farm work with the excuse of misunderstanding the law. Thus, one farmer whose boy of 14 years had stayed out of school a total of 74 days and whose 10-year-old girl had been absent 71 days told the agent that the "law only compels the children to make 100 days a year. I see to it that they do that because I don't want to pay the fine, but after that I keep them out to work all I need them." Of the school children from 7 to 12 years of age, inclusive,<sup>24</sup> 145 white and 83 negro had been absent from school for farm work during the school year preceding the survey, all which absence was illegal. Ten 13- and 14-year-old white children and 24 negro had been illegally absent for farm work, having attended school less than 100 days. The absence for farm work of 11 15-year-old children, 4 negro and 7 white, who had attended school less than 100 days and who had not

<sup>23</sup> See p. 17.

<sup>24</sup> Age as of Sept. 1, 1921. See note, p. 19. Thirteen of the white and 6 of the negro children may have been under 7 years of age when absent.

completed the seventh grade, was also illegal. Thus, 273, or 39 per cent, of the 701 white and negro school children between the ages of 7 and 16 employed on truck farms in the area surveyed had been illegally absent from school for farm work during the year covered by the inquiry.

Like children in other rural areas, these children can ill afford to lose time from school for farm work, as they inevitably lose much time also on account of bad roads, weather, and distance from school. From all causes combined nearly one-third of the white and negro children included in the present study whose records were obtained had attended school less than 70 per cent of the school term in their respective schools. About one-tenth (13.4 per cent of the negro and 11.2 per cent of the white children) had attended less than one-half the term. For the negro children in particular this meant very little schooling during the year inasmuch as the term in most of their schools was only from 136 to 140 days, as compared with from 175 to 181 days in the white schools. Partly on this account over one-half of the negro as compared with one-fourth of the white children who were included in the study and whose attendance records were found had attended school less than 120 days during the year preceding the inquiry.

Under these conditions it is impossible for children to complete a grade each year, as the average child is expected to do. Nearly two-fifths of the white children and seven-tenths of the negro children 8 to 16 years of age included in the study were retarded, the older children, as Table 23 shows, being more retarded than the younger.

The number of white children who according to average rates <sup>25</sup> would have been retarded is indicated in Table 24.

TABLE 23.—*Retardation of children in resident families, by age of child and race; Eastern Shore.*

Age and race. <sup>a</sup>	Children between 8 and 16 years of age attending school.														
	Total.	Retarded.								Normal.		Advanced.		Not reported.	
		Total.		1 year.		2 years.		3 years and over.							
		Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
White....	334	127	38.0	52	15.6	31	9.3	44	13.2	173	51.8	33	9.9	1	0.3
8 years, under 10	68	11	16.2	8	11.8	3	4.4	.....	.....	44	64.7	12	17.6	1	1.5
10 years, under 12	74	15	20.3	10	13.5	4	5.4	1	1.4	46	62.2	13	17.6	.....	.....
12 years, under 14	101	43	42.6	18	17.8	13	12.9	12	11.9	53	52.5	5	5.0	.....	.....
14 years, under 16	91	58	63.7	16	17.6	11	12.1	31	34.1	30	33.0	3	3.3	.....	.....
Negro....	318	228	71.7	63	19.8	58	18.2	107	33.6	83	26.1	7	2.2	.....	.....
8 years, under 10	68	29	42.6	21	30.9	8	11.8	.....	.....	36	52.9	3	4.4	.....	.....
10 years, under 12	77	57	74.0	20	26.0	15	19.5	22	28.6	18	23.4	2	2.6	.....	.....
12 years, under 14	88	68	77.3	11	12.5	19	21.6	38	43.2	19	21.6	1	1.1	.....	.....
14 years, under 16	85	74	87.1	11	12.9	16	18.8	47	55.3	10	11.8	1	1.2	.....	.....

<sup>a</sup> Age as of Sept. 1, 1921.

<sup>25</sup> See p. 20.

TABLE 24.—*Retardation of children in resident families in Eastern Shore group as compared with average retardation among city children.<sup>a</sup>*

Age. <sup>b</sup>	White children between 8 and 16 years of age attending school.			Average rate of retardation. <sup>1</sup>
	Total.	Retarded.		
		Actual number.	Expected number. <sup>c</sup>	
Total.....	334	127	95	.....
8 years, under 9.....	35	.....	4	10.5
9 years, under 10.....	33	11	5	15.5
10 years, under 11.....	38	5	8	21.6
11 years, under 12.....	36	10	10	26.9
12 years, under 13.....	60	23	19	32.4
13 years, under 14.....	41	20	15	36.5
14 years, under 15.....	55	29	21	37.8
15 years, under 16.....	36	29	13	37.3

<sup>a</sup> Based on average rates of retardation for different ages among 1,142,179 pupils in 80 cities, unpublished figures furnished by the U. S. Bureau of Education.

<sup>b</sup> Age as of Sept. 1, 1921.

<sup>c</sup> Number expected at average rates of retardation.

It will be seen that among children in the Eastern Shore areas more children of nearly every age group were retarded than would be expected at average rates, and that the retardation among those 13 years of age and older is especially striking. Of the 13-, 14-, and 15-year-old children 78 were below standard grades for their ages, instead of 49, according to average rates.

It has been noted, and Table 23 shows, that negro children were considerably more retarded than white. One-third of the total number were retarded three or more years. Of the 14- and 15-year-old children 87 per cent were retarded; of 85 children of these ages only 16 had completed the seventh or a higher grade. It would seem clear from this evidence that few negro children complete the elementary-school course. Negro children enter school late. Over two-fifths of those included in the study for whom age at beginning school was reported did not begin school until they were at least 7 years of age, one-eighth not until they were 8 or more; many of them lived some distance from a schoolhouse, and the school terms are shorter than those for white children. When to these disadvantages is added absence for farm work it will be seen that the negro children get comparatively little schooling. The recent increase in the length of the school term for negro children <sup>26</sup> should result in the Eastern Shore counties, as in Anne Arundel County, in increased opportunities for negro children to complete the elementary grades.

<sup>26</sup> See p. 21.

## CONCLUSION..

A large proportion of children who live in truck-farming areas on the Eastern Shore and in Anne Arundel County work on the farms. Thus of 774 children under the age of 16 enrolled in the schools of the Eastern Shore areas included in the survey and reporting on the inquiry, nine-tenths had done farm work during the year preceding the study. In the Eastern Shore localities the workers are largely farmers' children; in the Anne Arundel area there are, in addition to farmers' children who work, large numbers of hired laborers, either negro children living in the area or white children who migrate from Baltimore for seasonal farm work.

Most children, both white and negro, under 10 years of age work a short day at simple kinds of work and for only a few days or weeks during the year, and their work, therefore, presents no serious problem. Most white girls do little more work than the young children of both races and sexes, but some of the older negro girls and a large proportion of white and negro boys 12 years of age or more, especially those in farmers' families, do a great variety of work, and many work 9 or 10 hours a day. In areas surveyed on the Eastern Shore many of these older children had worked a total of 60 or more days during the season from May to October. A working-day of 9 or more hours on the last day worked was reported by one-half the white and negro boys working on the Eastern Shore and by one-half the boys working on the farms of Anne Arundel County. It is probable that longer working-days than this were common, inasmuch as the hours reported were in a majority of cases for picking, work which did not require so long a working-day as did more general types of farm labor. Some of the simpler kinds of work, such as picking berries or hoeing, while monotonous, are likely to prove physically taxing only if kept up for long hours; but plowing, harrowing, machine cultivating, and some kinds of machine transplanting, which require skill and strength, are fatiguing even when done for only a few hours at a time. Such work in conjunction with long hours was reported by many of the boys 12 years of age and over. In order to safeguard this group of children from working beyond their strength at an early age and from the strain of excessive hours, some legal regulation as to minimum age and maximum hours for the work of children on farms at least in such occupations as these would appear to be desirable.

According to reports made by their parents, a majority of the white and negro children in both areas included in the study suffered a

loss of schooling on account of farm work. Nearly one-fifth of the white children had been absent for farm work 30 or more school days or 6 or more school weeks during the preceding school year. Fewer negro children lose so much time from school because of farm work for the reason that their schools are closed during a large part of the busy season on the truck farms. The appointment of a sufficient number of attendance officers for each county would help to protect children under 13 years of age from loss of schooling on account of the demands of the farm. In order to offer the same protection to children 13 years of age and over it would be necessary to abolish the provision of the State school attendance law permitting children of these ages to remain out of school after an attendance of 100 days.

One-third of the child workers on farms in the Anne Arundel area surveyed were migratory laborers. Their work, which is usually confined to the picking of beans, peas, or strawberries, is simple and probably not overtaxing if the working-day is not too long. The majority of the pickers in the present study reported a working-day of less than eight hours, although in seasons when the crops are more successful, seasons which are considered more typical than the one during which the present survey was made, working hours are said to be longer. It should be remembered, moreover, that most of these children were under 14 years of age. Migratory workers present, however, two serious problems, one connected with their schooling, the other with living conditions on the farms where they live during the picking season. The majority of the children lose from four to six weeks at the end of the school term in order to go out to the truck farms; over two-thirds of those included in the study were retarded in school, a retardation rate which for children from 10 to 14 years of age is about twice the average for city school children. At the present time neither city nor county authorities assume the responsibility of requiring these children who are of compulsory school age to attend school the entire term, although the State compulsory school attendance law furnishes the legal right to enforce attendance in these cases. No adequate administrative machinery for enforcement has, however, been devised. The housing provided for migratory truck-farm workers in these localities is so unsatisfactory that it appears to call for some public supervision, such, for example, as that exercised for a number of years in California,<sup>27</sup> in order that growing children may escape the physical and social effects of promiscuous and unhealthful living conditions.

<sup>27</sup> Advisory pamphlet on Camp Sanitation and Housing (revised, 1919), p. 5. Commission of Immigration and Housing of California, San Francisco, 1919.

DEC 7 1923  
p

U. S. DEPARTMENT OF LABOR  
JAMES J. DAVIS, Secretary  
CHILDREN'S BUREAU  
GRACE ABBOTT, Chief

LIST OF REFERENCES  
ON  
JUVENILE COURTS AND PROBATION  
IN THE  
UNITED STATES  
AND A SELECTED LIST OF FOREIGN REFERENCES



Bureau Publication No. 124



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

OFFICE OF THE SECRETARY OF THE ARMY  
WASHINGTON, D. C.  
JANUARY 1917  
NO. 1000



U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

LIST OF REFERENCES  
ON  
JUVENILE COURTS AND PROBATION  
IN THE  
UNITED STATES  
AND A SELECTED LIST OF FOREIGN REFERENCES



Bureau Publication No. 124



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT IS  
NOT POSSIBLE TO DISTRIBUTE THIS BULLETIN IN LARGE  
QUANTITIES. ADDITIONAL COPIES MAY BE PROCURED  
FROM THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.  
AT  
10 CENTS PER COPY

# CONTENTS.

---

	Page.
Letter of transmittal.....	v
Juvenile courts and probation in the United States.....	1-28
General references.....	1
Periodical literature.....	5
Publications of the Children's Bureau, United States Department of Labor.....	9
Publications of State departments and commissions, and other official reports.....	12
Conference proceedings.....	15-27
Conferences of national associations.....	15
State conferences.....	20
City conferences.....	26
Published annual reports of courts hearing children's cases.....	28
Selected references on juvenile courts and commissions in foreign coun- tries.....	29-41
General references.....	29
Argentina.....	31
Australia—New South Wales.....	31
Austria-Hungary.....	32
Belgium.....	32
Brazil.....	33
Canada.....	33
Chile.....	34
France.....	34
Germany.....	35
Great Britain.....	36
Greece.....	38
Italy.....	38
Japan.....	39
Mexico.....	39
Norway.....	39
Russia.....	39
Spain.....	40
Sweden.....	40
Switzerland.....	41
The Netherlands.....	41



## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, June 8, 1923.*

SIR: There is transmitted herewith a list of references on juvenile courts and probation in the United States and a selected list of foreign references. This has been prepared under the direction of Emma O. Lundberg, director of the social-service division of the Children's Bureau, by Irma C. Lonegren, with the assistance of Eliza Tonks.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

HON. JAMES J. DAVIS,  
*Secretary of Labor.*



# LIST OF REFERENCES ON JUVENILE COURTS AND PROBATION IN THE UNITED STATES AND A SELECTED LIST OF FOREIGN REFERENCES.

---

## JUVENILE COURTS AND PROBATION IN THE UNITED STATES.

---

### GENERAL REFERENCES.

**Bowen, Louise de Koven.** Safeguards for City Youth at Work and at Play. The Macmillan Company, New York, 1914.

A description of the work of the Juvenile Court Committee of Chicago, in relation to the early work of the juvenile court; the development of this committee into the Juvenile Protective Association, and its efforts to obtain needed child welfare legislation, pp. 1-93.—Legal protection for delinquent children, pp. 94-127.—Legal safeguards for dependent children, pp. 128-159.

**Breckinridge, Sophonisba P., and Abbott, Edith.** The Delinquent Child and the Home. Introduction by Julia C. Lathrop. Russell Sage Foundation, New York, 1912. 355 pp.

The material presented is "a study of the conditions from which delinquent children come, together with an analysis of the problems presented to the court by these conditions." It is based first on an extensive survey of the records of all delinquency cases brought before the Chicago juvenile court from July 1, 1899, to June 30, 1909, including the ages and nationalities of the children and the disposition of their cases; and second on an intensive study made in 1907-8 of the delinquent children brought before the court in 1903-4.

**Charity Organization Society of the City of New York, Committee on Criminal Courts.** The Adolescent Offender; a study of the age limit of the children's court. January, 1923. 85 pp.

A study of all cases of offenders from 16 to 21 years of age, coming during a period of one month before the courts of general sessions, courts of special sessions, the men's night court, the women's court, and one district magistrate's court of the borough of Manhattan. The purpose of the investigation was to consider the advisability of raising the age limit of cases in The Children's Court of New York City from 16 to 18 years.

**The Child in the City.** Proceedings of the Chicago Child-Welfare Exhibit. Sophonisba P. Breckinridge, Editor. Chicago School of Civics and Philanthropy, Department of Social Investigation, 1912.

"The law and the child," pp. 315-355: The juvenile court, by Judge Merritt W. Pinckney.—The municipal court and the child, by Judge Harry Olson.—The

court of domestic relations, by Judge Charles N. Goodnow.—The presentation of the case, by Roger N. Baldwin.—The delinquent girl and the juvenile court, by Judge Merritt W. Pinckney.—Probation and institutional care, by Mary W. Dewson.

**Eliot, Thomas D.** *The Juvenile Court and the Community.* The Macmillan Company, New York, 1914. 234 pp.

A dissertation on the relation of the juvenile court to the school.

**Flexner, Bernard, and Baldwin, Roger N.** *Juvenile Courts and Probation.* The Century Company, New York, 1914. 308 pp.

A description of the administration of juvenile courts, covering the following topics: The law—the principles underlying the court. Organization and procedure—the judge, methods of bringing children before the court, investigations, the court room and probation office, and procedure in court. Probation—the exercise of probation power, powers and duties of probation officers, and organization of probation work. Reports and statistics—probation officers' reports, annual reports, uniformity of records and reports for States, and terminology. Legal forms—probation office forms. Appendix: Proposed model juvenile court and "contributing to delinquency" laws; selected references.

**Grinnell, F. W.** *Probation as an Orthodox Common Law Practice in Massachusetts Prior to the Statutory System.* Reprinted for the National Probation Association from the Massachusetts Law Quarterly, vol. 2, pp. 591-639. (August, 1917.)

A brief historical review of the practice (without legal authority) of probation in Federal courts and in the Massachusetts courts from prerevolutionary times. The development of the probation principle from the old common law of "approvement," which pardoned after confession and turning State's evidence, on the legal theory that the criminal has thus "purged his crime by doing his duty and service to the community \* \* \* so that it is safe and proper to allow him his freedom." It is considered that "there has been no period since the establishment of the English monarchy when there has not been the power in the courts to suspend judgment, whether in a civil or a criminal case." The essential nature of probation as a judicial function is not a capricious or arbitrary jurisdiction, but is based upon principles which will grow more distinct as time goes on.

**Hart, Hastings H.** *Preventive Treatment of Neglected Children; with special papers by leading authorities.* Russell Sage Foundation, New York, 1910.

Includes the following articles, pp. 249-357: The juvenile court as a non-criminal institution, by Hastings H. Hart.—The juvenile court as a social institution, by Bernard Flexner.—The juvenile court as a legal institution, by Judge Julian W. Mack.—Procedure of the Boston Juvenile Court, by Judge Harvey H. Baker.—Procedure of the Manhattan Children's Court of the City of New York, by Judge Franklin Chase Hoyt.—The juvenile court as a probationary institution, by Henry W. Thurston.—Juvenile probation in New York, by Homer Folks.

———, Editor. *Juvenile Court Laws in the United States.* Charities Publication Committee, Russell Sage Foundation, New York, 1910. 150 pp.

A summary of juvenile court laws in the United States, arranged by States, by Thomas J. Homer. A topical abstract of State laws governing the trial and disposition of juvenile offenders, by Grace Abbott. The Monroe County, N. Y., juvenile court law of 1910.



**Harvey Humphrey Baker**—Upbuilder of the Juvenile Court. Judge Baker Foundation, Boston, 1920. 133 pp.

Portrays the personality of Judge Baker; reviews the policies of the Boston Juvenile Court, from 1906 to 1916, inclusive, and gives a statistical summary of the work.

**Healy, William, M. D.** Honesty; a study of the causes and treatment of dishonesty among children. The Bobbs-Merrill Co., Indianapolis, 1915. 220 pp.

A discussion based on children's cases brought to the Psychopathic Institute of the Juvenile Court of Cook County, Chicago. It includes an examination into the complex causes of children's misconduct, and suggests the character of treatment that will be preventive and constructive.

——— **The Individual Delinquent**; a textbook of diagnosis and prognosis for all concerned in understanding offenders. Little, Brown & Co., Boston, 1917. 830 pp.

Purpose: "To ascertain from the actualities of life the basic factors of disordered social conduct." Based on data obtained by the author and his assistants in the Psychopathic Institute of the Cook County Juvenile Court, Chicago. The general material includes the scheme of presentation, scope, the individual as the dynamic center of the problem, the mental bases of delinquency, statistics, and general conclusions. The discussion of the cases covers types and causative factors, heredity, factors in developmental conditions, physical conditions, peculiarities and ailments, environmental factors, professional criminalism, deliberate choice, mental imagery, mental conflicts and repressions, abnormal sexualism, epilepsy, mental defect and abnormalities, pathological stealing, and other topics.

——— **Mental Conflicts and Misconduct.** Little, Brown & Co., Boston, 1917. 330 pp.

The causation of misconduct: The "revelation (a) of potent subconscious mental mechanisms working according to definite laws of mental life, and (b) of types of hidden early experiences which definitely evoke these mental processes that are forerunners of misconduct." The case studies are from the Psychopathic Institute of the Cook County Juvenile Court, Chicago.

——— **and Healy, Mary Tenney.** Pathological Lying, Accusation, and Swindling; a study in forensic psychology. Criminal Science Monograph No. 1. Supplement to the *Journal of the American Institute of Criminal Law and Criminology*. Little, Brown & Co., Boston, 1915. 286 pp.

A detailed presentation of cases of pathological lying and swindling, of pathological accusation, and of pathological lying in borderline mental types, based on data obtained from the Psychopathic Institute of the Cook County Juvenile Court, Chicago.

**Hoyt, Franklin Chase.** Quicksands of Youth. Charles Scribner's Sons, New York, 1921. 241 pp.

"A book of stories telling of youth's encounter with the law."

**Hurley, Timothy D.** Origin of the Illinois Juvenile Court Law; juvenile courts and what they have accomplished. Visitation and Aid Society, Chicago, Ill., 1907. 189 pp.

Discussion of the history and development of the Illinois juvenile court law; a day in the juvenile court (June 10, 1901).—A discussion of laws adopted in other States.

**Lee, Joseph Walter.** Problems of a Rural Juvenile Court; a description of the work of the Juvenile Department of the County Court of Weld County, Colorado. Colorado State Teachers' College, Department of Research, Greeley, Colo. Bulletin Series 19, No. 7, 1919. 52 pp.

Jurisdiction of the juvenile court; the geographic problem; the problem of organization; overcoming the difficulties; educational correlations; miscellaneous problems; coordination in child welfare.

**National Child Labor Committee, New York City.** The following publications contain descriptions of methods of courts handling children's cases in the States specified:

Child Welfare in Alabama. 1918. pp. 147-162.

Child Welfare in Kentucky. 1919. pp. 200-256.

Child Welfare in North Carolina. 1918. pp. 19-35.

Child Welfare in Oklahoma. 1917. pp. 141-163.

Child Welfare in Tennessee. 1920. pp. 409-509.

Rural Child Welfare; an inquiry based upon conditions in West Virginia. 1922. pp. 165-238; 315-333.

**National Probation Association, Inc.** Directory of Probation Officers of the United States and Canada. New York City, 1923. 60 pp.

The names of probation officers are arranged under States and counties, the city and the court served being indicated in each case.

**Robinson, Louis N.** Penology in the United States. The John C. Winston Co., Philadelphia, 1921.

Includes a discussion of the extent of probation, the work and qualifications of a probation officer, and the use of volunteers (pp. 194-216).

**Schoff, Hannah Kent.** The Wayward Child; a study of the causes of crime. The Bobbs-Merrill Co., Indianapolis, 1915.

The place and the work of the juvenile court (pp. 204-232).—Probation that will save wayward children (pp. 233-256).

**Smith, Eugene.** Criminal Law in the United States. Russell Sage Foundation, New York, 1910.

Children's courts and probation officers, the principles upon which juvenile courts were established, and a review of the Illinois juvenile court law (pp. 75-94).

**Thurston, Henry W.** The Probation Officer at Work. New York School of Philanthropy, Studies in Social Work, No. 3. New York, 1915. 22 pp.

A practical guide for the probation officer.

**Waite, Judge Edward F.** Courts of Domestic Relations. Reprint from "Social Treatment of the Delinquent," *Annual Report and Proceedings of the National Probation Association*, 1921. New York, 1922. 12 pp.

A discussion of the establishment of courts of domestic relations as a result of the influence of the basic social principles which underlie the juvenile court.

— The Origin and Development of the Minnesota Juvenile Court; address before the Minnesota Association of Probate Judges, January 15, 1920. State Board of Control, St. Paul, 1920. 20 pp.

The juvenile court as a new social institution, with a special section on the Minnesota juvenile court; the legal aspect of the juvenile court; the underlying principles of the juvenile-court movement.

## PERIODICAL LITERATURE.

### *American Journal of Sociology.*

- Vol. 20. Belden, Evelina. Boys' Court of Chicago; a record of six months' work. pp. 731-744. (May, 1915.)
- Vol. 22. Healy, William, M. D., and Bronner, Augusta F. Youthful offenders; a comparative study of two groups, each of 1,000 young recidivists. pp. 38-52. (July, 1916.)
- Vol. 26. Baker, Judge Herbert M. The court and the delinquent child. pp. 176-186. (September, 1920.)

### *Annals of the American Academy of Political and Social Science.*

- Vol. 77 (May, 1918). Social Work with Families:  
Thurston, Henry W. Essentials of case treatment with delinquent children. pp. 131-139.
- Vol. 105, No. 194 (January, 1923). Public Welfare in the United States:  
Chute, Charles L. Juvenile probation. pp. 223-228.  
Curry, H. Ida. Child welfare in the rural field. p. 204.  
Lenroot, Katharine F. The evolution of the juvenile court. pp. 213-223.  
Waite, Judge Edward F. The outlook for the juvenile court. pp. 229-242.

### *Catholic Charities Review.*

- Vol. 4. Murphy, Joseph P. The volunteer and the juvenile court. pp. 35-38. (February, 1920.)

### *Educational Review.*

- Vol. 49. Haniphy, J. A. Juvenile courts. pp. 489-502. (May, 1915.)

### *Harvard Law Review.*

- Vol. 36. Oppenheimer, Reuben. Infamous crimes and the Moreland case. (A discussion of the United States Supreme Court decision, "that an act of Congress authorizing the juvenile court judge of the District of Columbia to sentence any person who willfully neglected to provide for his minor children to the District workhouse at hard labor, violated the fifth amendment of the Federal Constitution, because it did not provide for presentment or indictment of the accused by a grand jury." pp. 299-320. (January, 1923.)

### *Journal of Delinquency.*

- Vol. 2. Ordahl, George. Mental defectives and the juvenile court. pp. 1-13. (January, 1917.)
- Vol. 7. Eliot, Thomas D. The back to school movement; the unofficial treatment of predelinquent children. pp. 334-349. (November, 1922.)
- Goldblatt, Miriam E. The history of juvenile court laws in New York State. pp. 24-42. (January, 1922.)
- Williams, J. Harold. A court hearing on parental neglect. pp. 141-146. (May, 1922.)

### *The Journal of Social Forces.*

- Vol. 1. Ricks, Judge James Hoge. The juvenile court and public welfare. pp. 118-123. (January, 1923.)

*Journal of the American Institute of Criminal Law and Criminology.*

- Vol. 3. Goddard, Henry H. Responsibility of children in the juvenile court. pp. 365-375. (September, 1912.)
- Vol. 4. Newkirk, H. D., M. D. Corrective work in the Hennepin County Juvenile Court. pp. 280-282. (July, 1913.)
- Vol. 5. Bogardus, Emory S. Study of juvenile delinquency and dependency in Los Angeles County for the year 1912. pp. 387-396. (September, 1914.)
- Vol. 6. Burgess, E. W. Juvenile delinquency in a small city. pp. 724-728. (January, 1916.)  
 Wilkin, Judge Robert J. The children's court judge and the probation officer. pp. 767-769. (January, 1916.)
- Vol. 8. Chute, Charles L. State supervision of probation. pp. 823-828. (March, 1918.)
- Vol. 9. Everson, George. The standard of children's court work. pp. 105-113. (May, 1918.)
- Vol. 10. Towne, Arthur W. Shall the age jurisdiction of juvenile courts be increased? pp. 493-515. (February, 1920.)
- Vol. 11. Wilkin, Judge Robert J. On the age limit in the juvenile court. pp. 616-618. (February, 1921.)
- Vol. 12. Proposed law relating to county juvenile courts in Missouri. pp. 282-283. (August, 1921.)  
 Collins, Charles W. The Pittsburgh Morals Court. pp. 412-415. (November, 1921.) (Reprinted from the *National Municipal Review*, August, 1921.)  
 Waite, Judge Edward F. How far can court procedure be socialized without impairing individual rights? pp. 339-347. (November, 1921.)
- Vol. 13. Healy, William, M. D. Study of the case preliminary to treatment. pp. 74-81. (May, 1922.)  
 Van Waters, Miriam. The socialization of juvenile-court procedure. pp. 61-69. (May, 1922.)  
 Wigmore, John H. Obstructing the efficiency of the juvenile court. pp. 165-167. (August, 1922.)

*Mental Hygiene.*

- Vol. 3. Healy, William, M. D., and Bronner, Augusta F. Medicopsychological study of delinquents. pp. 445-452. (July, 1919.) (Published also as Reprint No. 71 by the National Committee for Mental Hygiene, 1919.)  
 Montague, Helen. Psychopathic clinic of the Children's Court of the City of New York, Second Annual Report. pp. 650-669. (October, 1919.)

- Vol. 4. Taft, Jessie. Problems of social case work with children. pp. 537-549. (July, 1920.)
- Vol. 6. Psychiatric service to juvenile courts. pp. 208-210. (January, 1920.)

*The National Humane Review.*

- Vol. 6. Warner, Charles H. County children's courts. pp. 46-47. (March, 1918.)
- Vol. 10. Elliot, Thomas D. What agency should handle the quasi-delinquent child? pp. 228, 237. (December, 1922.)  
 Perrin, Judge Solon R. The future of the children's court. pp. 223-224, 240. (December, 1922.)

*The Survey.* [Formerly *Charities*, and *Charities and the Commons.*]

Special juvenile-court numbers:

Vol. 11, pp. 395-432 (November 7, 1902)—

Barrows, Samuel J. The National Prison Association.

Brown, George R. A children's court in an orphan house.

Elliott, Charlotte C. Before and after in St. Louis.

Franklin, Sara Nelson. A workshop of a probation officer.

Heusler, Charles W. Probation work in children's courts.

Hurley, Timothy D. Development of the juvenile-court idea.

Lindsey, Judge Ben B. Some experiences in the juvenile court of Denver.

Mayer, Julius M. The child of a large city.

Schoff, Hannah Kent. Pennsylvania's unfortunate children.

Vol. 13, pp. 323-359 (January 7, 1905)—

Editorial.—A new piece of social machinery.

Almy, Frederic. The economics of the juvenile court.

Bates, Helen Page. Digest of statutes relating to juvenile courts and probation systems.

Henderson, Charles R. Juvenile courts; problems of administration.

Hurd, Harvey B. Juvenile court law; minimum principles which should be stood for.

Lathrop, Julia C. The development of a probation system in a large city.

Lindsey, Judge Ben B. The boy and the court; the Colorado law and its administration.

Wilkin, Judge Robert J. The economic side of parental responsibility.

Vol. 23. *Ten Years of the Juvenile Court.* Bernard Flexner, Editor. pp. 607-680 (February 5, 1910)—

Baker, Judge Harvey H. Procedure of the Boston Juvenile Court.

Flexner, Bernard. The juvenile court as a social institution.

Folks, Homer. Juvenile probation in New York.

Lindsey, Judge Ben B. My lesson from the juvenile court.

Mack, Judge Julian W. The law and the child.

Thurston, Henry W. Ten years of the juvenile court of Chicago.

Vol. 16. Folks, Homer. The situation as to probation in New York. pp. 243-244. (May 19, 1906.)

Vol. 17. Jones, Edith. Probation in practice. pp. 980-987. (March 2, 1907.)

Vol. 18. Lindsey, Judge Ben B. The new juvenile court of Denver. pp. 469-470. (August 3, 1907.)

Muensterberg, Emil. Juvenile courts. pp. 581-585. (August 10, 1907.)

Vol. 26. Folks, Homer. Juvenile court tried and condemned. pp. 15-18. (April 1, 1911.)

Vol. 34. Thurston, Henry W. The probation officer at work. pp. 109-111. (May 1, 1915.)

Vol. 35. Editorial.—Some new children's courts. pp. 486-487. (January 22, 1916.)

Vol. 42. Addison, Henrietta S., and Deardorff, Neva R. That child. [The function of the juvenile court and the school.] pp. 185-188. (May 3, 1919.)

*The Survey*—Continued.

- Vol. 45. Baker, Judge Herbert M. Passing of the juvenile court. p. 705.  
(February 12, 1921.)
- Durham, Elizabeth P. Boston's child court system. pp. 250-252.  
(November 13, 1920.)
- Hoffman, Judge Charles W. Saving the child. pp. 704-705. (February 12, 1921.)
- Lundberg, Emma O. The school and the juvenile court. pp. 703-704. (February 12, 1921.)
- Vol. 49. Towne, Arthur W. When a child kills. pp. 237-239. (November 15, 1922.)

## **PUBLICATIONS OF THE CHILDREN'S BUREAU, UNITED STATES DEPARTMENT OF LABOR.**

**Standards of Child Welfare;** a report of the Children's Bureau Conferences, May and June, 1919. Publication No. 60. Washington, 1919. Section IV. Children in Need of Special Care. (Also published as Separate No. 4.)

What constitutes sufficient grounds for the removal of a child from his home? by Judge Victor P. Arnold (pp. 345-350).—Standards of organization in children's courts, by Judge James Hoge Ricks (pp. 368-373).—Standards of probation work, by Louis N. Robinson (pp. 376-379).—Medicopsychological study of delinquents, by William Healy, M. D., and Augusta F. Bronner (pp. 382-388).

**Minimum Standards for Child Welfare;** adopted by the Washington and Regional Conferences on Child Welfare, 1919. Publication No. 62. Washington, 1919.

"Juvenile courts," p. 13.

**Children before the Courts in Connecticut.** Wm. B. Bailey. Publication No. 43. Washington, 1918. 98 pp.

A history of Connecticut laws relating to juvenile delinquency; methods of conducting cases of juvenile delinquents brought before the courts; the probation system; institutions for children brought before the courts; a detailed study of juvenile delinquency in certain cities and towns; text of statutes relating to juveniles.

**Courts in the United States Hearing Children's Cases;** results of a questionnaire study covering the year 1918. Evelina Belden. Publication No. 65. Washington, 1920. 115 pp.

The juvenile-court movement (by Katharine F. Lenroot); classification of courts; significant aspects of legal jurisdiction under which children's courts operate; specialized judges, and methods of hearings; detention; probation; records and reports; provision for physical and mental examinations; cooperation of the court with the community.

**A Summary of Juvenile-Court Legislation in the United States.** Sophonisba P. Breckinridge and Helen R. Jeter. Publication No. 70. Washington, 1920. 110 pp.

A classification of courts according to: Extent of jurisdiction over children and adults; preliminary procedure; hearing; disposition of the case; special care for the sick and feeble-minded; parental duty of support; continuing jurisdiction and relation of court to institutions in which children are placed; organization of the court; construction and purpose of the law.

**Probation in Children's Courts.** Charles L. Chute. Publication No. 80. Washington, 1920. 32 pp.

A monograph on the development of probation, its present status in relation to children's courts, the methods used, the training and selection of probation officers, State supervision, and the results of the probation method.

**The Practical Value of Scientific Study of Juvenile Delinquents.** William Healy, M. D. Publication No. 96. Washington, 1922. 31 pp.

A monograph on the need of scientific study of the juvenile delinquent from a physical, mental, and sociological approach, and of the correlation of all the facts in making a diagnosis.

**Proceedings of the Conference on Juvenile-Court Standards;** held under the auspices of the U. S. Children's Bureau and the National Probation Association, Milwaukee, Wis., June 21-22, 1921. Publication No. 97. Washington, 1922. 111 pp.

Introductory statement, by Julia C. Lathrop.—The contribution of the juvenile court to the child-welfare movement, by C. C. Carstens.—The fundamental principles of the juvenile court and its part in future community programs for child welfare, by Judge Charles W. Hoffman.—Study of the individual child as a preliminary to treatment, by William Healy, M. D.—The field of the juvenile court, by Judge Edward Schoen.—Where does the responsibility of the court begin? by Judge Henry S. Hulbert and Judge Kathryn Sellers.—How far can court procedure be socialized without impairing individual rights? by Judge Edward F. Waite, Judge Samuel D. Levy, and Miriam Van Waters.—The organization of county juvenile courts in a rural State, by Mrs. Clarence A. Johnson.—Adjusting treatment to individual needs, by Louis N. Robinson and Jesse P. Smith.—Committee on juvenile-court standards.

**The Legal Aspect of the Juvenile Court.** Bernard Flexner and Reuben Oppenheimer. Publication No. 99. Washington, 1922. 42 pp.

Fundamental principles; constitutionality of statutes; organization of the court—the court given jurisdiction, the judge, and the probation officer; jurisdiction over minors—exclusive and concurrent, as to age and classes of cases; jurisdiction over adults; procedure; legal effect of proceedings—review by appellate courts, use of evidence in other trials, effect of proceedings upon status of child; the future of the court. Addendum: The Moreland case (relating to nonsupport of minors in the District of Columbia). Appendix: Table of cases.

**The Federal Courts and the Delinquent Child;** a study of the methods of dealing with children who have violated Federal laws. Ruth Bloodgood. Publication No. 103. Washington, 1922. 71 pp.

The data concerning the 1,356 children under 18 years of age, arrested during the calendar years 1918 and 1919 for violation of Federal laws, were obtained from the records of the chief inspector of the United States Post Office Department, the National Training School for Boys in the District of Columbia, the New York State Reformatory at Elmira, the Iowa State Reformatory at Anamosa, and eight selected Federal courts.

**The Chicago Juvenile Court.** Helen Rankin Jeter. Publication No. 104. Washington, 1922. 119 pp.

A description of the origin, development, jurisdiction, organization, and methods of the Cook County Juvenile Court, Chicago; its subsequent relations to the child and the custodial agency, and its cooperation with other social agencies and courts.

**County Organization for Child Care and Protection.** Publication No. 107. Washington, 1922.

Probation in Minnesota (p. 40); state-wide system of juvenile courts in North Carolina (pp. 47-49); centralized juvenile-court work in Chautauqua County (pp. 106-108).



**Juvenile-Court Standards;** report of the committee appointed by the Children's Bureau, August, 1921, to formulate juvenile-court standards, adopted by a conference held under the auspices of the Children's Bureau and the National Probation Association, May 18, 1923. Publication No. 121. Washington, 1923.

**Juvenile Courts at Work;** a study of the organization and methods of ten courts. Katharine F. Lenroot and Emma O. Lundberg. (In preparation.)

Covers the jurisdiction of the courts; the court room and probation offices; the staff and organization of the court; preliminary steps in court procedure; detention; study of the case; cases adjusted without official court action; hearings; the court order; methods of probation; records and reports. Includes photographs of hearings and detention homes, and charts of court organization.

#### REPRINTS OF ARTICLES BY MEMBERS OF THE STAFF.

**Lenroot, Katharine F.** Juvenile Detention Homes. Paper read before the International Association of Policewomen, 1921. Reprinted from the *Annual Report and Proceedings of the National Probation Association*, 1921. 9 pp.

A brief treatment of the purpose of detention and the types of provision made.

—— The Evolution of the Juvenile Court. Reprinted from *The Annals of the American Academy of Political and Social Science*, January, 1923. Publication No. 1667. 10 pp.

English precedents and American beginnings; the first 10 years of the juvenile court; development since 1910; national movements for the standardization of juvenile court work.

**Lundberg, Emma O.** Juvenile Courts—Present and Future. Reprinted from the Proceedings of the Annual Congress of the American Prison Association, 1921. 10 pp.

Present status; probation; the place of the juvenile court in a community program; the court and the schools; special problems of rural communities.

—— The Juvenile Court as a Constructive Social Agency. Reprinted from The Proceedings of the National Conference of Social Work, 1922. 6 pp.

Jurisdiction; the judge; effective probation service; scientific diagnosis of cases; cooperation with other child-welfare agencies.

—— The Probation Officer and the Community. Address before the New York State Conference of Probation Officers, 1922. Published by the New York State Probation Commission. Albany [1923] 8 pp.

## PUBLICATIONS OF STATE DEPARTMENTS AND COMMISSIONS, AND OTHER OFFICIAL REPORTS.

**Children's Courts in the United States;** their origin, development, and results; report prepared for the International Prison Commission by the Commissioner for the United States. House of Representatives, Fifty-eighth Congress, Second Session, Document No. 701. Government Printing Office, Washington, 1904. 203 pp.

Includes the following articles: History of the children's court in Chicago, by Judge Richard S. Tuthill.—Development of the juvenile-court idea, by Timothy D. Hurley.—History of the juvenile court of Buffalo, by Judge Thomas Murphy.—The child of the large city, by Julius M. Mayer.—The children's court of Brooklyn, by Judge Robert J. Wilkin.—The juvenile court of Denver, by Judge Ben B. Lindsey.—A campaign for childhood, by Hannah Kent Schoff.—History of the juvenile court of Milwaukee, by Bert Hall.—History of the children's court in Newark, by Judge Alfred F. Skinner.—The mission of the juvenile court of Indianapolis, by Judge George W. Stubbs.—The probation system of the juvenile court of Indianapolis, by Mrs. Helen W. Rogers.—The change wrought by the juvenile-probation system in St. Louis, by Charlotte C. Elliot. Appendix: Juvenile-court laws; notes from different States.

**Georgia State Department of Public Welfare.** "In Loco Parentis," the work of the juvenile court in saving Georgia's wards from lives of poverty and crime. Atlanta, 1922. 119 pp.

A handbook for juvenile-court judges, advisory boards, probation officers, and civic organizations. A concise presentation of the meaning and growth of the juvenile-court movement in the United States; the status of the juvenile court in Georgia, its development, jurisdiction, organization, and legal procedure, with special emphasis on how the welfare of the child may best be conserved. Extracts from Charles L. Chute's "Children's Courts and Probation."—Reprint of Katharine F. Lenroot's "Juvenile Detention Homes." (See pp. 84-88.)

**Illinois Department of Public Welfare.** *The Institution Quarterly.* Springfield.

Vol. 6. Pinckney, Judge Merritt W. Probation of delinquent juveniles. pp. 176-183. (March 31, 1915.)

Vol. 9. Jack, Elizabeth. Juvenile courts of southern Illinois. pp. 46-51. (Sept. 30, 1918.)

Vol. 10. Jack, Elizabeth. Juvenile-court procedure in Illinois. pp. 47-51. (June 30, 1919.)

Vol. 11. Pam, Judge Hugo. The juvenile and adult offender. pp. 22-31. (March 31, 1920.)

**Illinois.** The Juvenile Court of Cook County, Illinois. Report of a committee appointed under resolution of the Board of Commissioners of Cook County, bearing date August 8, 1911. Chicago, 1912. 294 pp.

Includes reports of investigations on: The juvenile court law and the jurisdiction of the court.—The probation department, the detention home, and the disposition of children.

**Indiana.** First Annual Report to the Governor of the State Probation Officer of Indiana for the fiscal year ending September 30, 1921. Indianapolis, 1922. 12 pp.

Covers the work of the State probation officer from May 31 to Sept. 30, 1921.

**Massachusetts Commission on Probation.** Annual Reports, 1910 to date. Boston.

Give statistical data relative to probation in Massachusetts.

— Probation Manual. July, 1916. 98 pp.

Historical sketch of probation; features of probation law and practice; probation laws; State commission on probation; Massachusetts decisions; probation organization; court jurisdiction.

**Nebraska.** Department of Public Welfare. Report for the Biennium Closing June 30, 1922.

Report on juvenile courts, by Mrs. Emily P. Hornberger. pp. 52-54.

**New York State Probation Commission.** Annual Reports. Albany.

1907-1920. Include: A brief survey of the year's work; general statistical summary; statistics of boys and girls on probation; reports on special studies.

1921. Includes: A year's progress in probation work; the test of the probation system; two decades of probation work in New York State; State supervision of probation (pp. 9-15).—Developments in the probation work of the State during the year ending June 30, 1921: Boys and girls placed and remaining on probation during the year; growth of probation from 1908 to 1921, inclusive; number of children on probation at the end of each year from 1907 to 1921, inclusive; selecting and training probation officers; children placed on probation during year by courts in various localities; charges placed against children on probation during the year; results in all cases passed from probation during the year; supervision of probationers; home visits reported by probation officers (pp. 15-30).—Local developments throughout the State (pp. 31-34).—The work of the commission, and its recommendations (pp. 34-42).—Statistics of probation officers (pp. 43-47).—Proceedings of the Fourteenth Annual State Conference of Probation Officers, 1922 (pp. 49-127).—Directory of probation officers in New York State, revised to July 1, 1922 (pp. 131-136).—Probation associations in New York State (pp. 137-139).—Directory of institutions for delinquents (pp. 140-152).—Certain cooperating State departments (pp. 154-155).

— Manual for Probation Officers in New York State. Revised edition, 1918. 343 pp.

Historical sketch of probation; definition of terms.—Appointment, compensation, and jurisdiction of probation officers; their duties, powers, and methods.—Procedure in using probation.—Records, reports, forms, accounts, and statistics.—State probation commission. Appendixes: Children's and domestic relations courts in New York State; illustrative case histories; probation rules; civil-service examinations for probation officers.

— Methods of Supervising Persons on Probation. 1918. 94 pp.

Report of a committee appointed by the New York Probation Commission to investigate and make recommendations concerning methods of supervising probationers.

— PAMPHLETS AND LEAFLETS DISTRIBUTED BY THE COMMISSION:

Advantages of Probation. Revised edition, 1920. 16 pp.

Buell, J. B. Professional Aspects of Probation Work. 8 pp.

Chute, Charles L. State Supervision of Probation. 12 pp. 1920.

County Probation Officers. Revised edition, 1920. 12 pp.

Fagan, Bernard J. Administrative Problems in Probation Work. 7 pp. 1922.

Folks, Homer. Developments of Ten Years in New York's Probation Service. 15 pp. 1917.

General Probation Law, 1917. 4 pp.

**New York State Probation Commission.** Pamphlets and leaflets distributed by the commission—Continued.

**A Half Dozen Reasons Why Your Community Needs Probation Officers and a Juvenile Court.** 1909. 2 pp.

**How a Juvenile Court and Probation Save Children.** 1909. 4 pp.

**Lundberg, Emma O.** *The Probation Officer and the Community.* 8 pp.

**Parsons, Herbert C., and Burleigh, Edith N.** *Minimum Standards of Probation.* Reprinted from the Proceedings of the American Prison Association, 1920. 8 pp.

**Probation in New York State; a review of the development and the use of probation from October 1, 1907, to September 30, 1920.** 1922. 35 pp.

**Probation or Jail.** Revised edition, 1920. 4 pp.

**Probation Results in Syracuse.** 1912. 7 pp.

**Probation Rules of the Children's Court of Buffalo.** 1912. 17 pp.

**Proceedings of the First Conference of City Magistrates, 1909.** 1910. 75 pp.

**Ryan, Justice Morgan M. L.** *Probation in Cases of Children.* 1912. 7 pp.

**Shove, Justice Benjamin J.** *Children's Court Problems.* 1920. 8 pp.

**State Probation Commission: Organization, duties, and powers; legislation creating by-laws.** 1920. 12 pp.

**Thurston, Henry W.** *The Probation Officer at Work.* Reprinted 1920. 22 pp.

**Tompkins, Judge Arthur S.** *The Meaning of Probation.* 1917. 8 pp.

**Towne, Arthur W.** *Juvenile Probation.* 1920. 7 pp.

**What Probation Does; the story of John.** 1920. 4 pp.

**North Carolina State Board of Charities and Public Welfare.** North Carolina's child-welfare program for the care and protection of dependent, neglected, and delinquent children, through superintendents of public welfare, juvenile courts, and child-caring institutions. Raleigh, 1921.

Includes a history of the juvenile court in North Carolina, a description of the methods of procedure, a summary of the work, and citation of illustrative cases. pp. 8-12, 14-19.

— *Bulletin*, Raleigh.

Vol. 2, No. 3 (July-September, 1919). Includes: Excerpts from a speech on juvenile courts, by Judge Charles N. Feidelson, pp. 5-8.—A summary of the North Carolina juvenile court law, pp. 15-17.—Remarks concerning its jurisdiction, pp. 10-14.

— No. 4 (October-December, 1919). "Delinquent and neglected"—whose fault? Illustrative case stories from the juvenile court. pp. 10-15.

**South Carolina State Board of Charities and Corrections.** The Probate Court and the Children in South Carolina. *Quarterly Bulletin*, Vol. V, No. 3 (September, 1919). Columbia, S. C. 21 pp.

An outline of the organization and functions of the probate court in its work with children.

**Utah. Juvenile Court Commission of the State of Utah.** Salt Lake City. Reports for the Bienniums Ending November 30—

1920. The organization and problems of juvenile courts in Utah; statistical data. 38 pp.

1922. Contains a list of the judges and probation officers of the State; defines the jurisdiction of the court; outlines the accomplishments for the year, giving statistical data. 12 pp.

**Vermont. Board of Charities and Probation of the State of Vermont.** Biennial Report for the Term Ending June 30, 1922. Rutland, Vt., 1922.

Includes statistics of probation from juvenile courts for years ending June 30, 1921 and 1922.

## CONFERENCE PROCEEDINGS.

### CONFERENCES OF NATIONAL ASSOCIATIONS.

**National Conference of Social Work** [prior to 1917, the National Conference of Charities and Correction]. *Proceedings*.

1903. Lindsey, Judge Ben B. The reformation of juvenile delinquents through the court. pp. 206-230.

1904. Henderson, Charles R. Theory and practice of juvenile courts. pp. 358-369.

Rogers, Mrs. Helen W. The probation system of the juvenile court of Indianapolis. pp. 369-379.

Stubbs, Judge George W. The mission of the juvenile court. pp. 369-379.

1905. Hurley, Timothy D. Necessity for a lawyer in the juvenile court. pp. 172-177.

Lindsey, Judge Ben B. Report of the subcommittee on juvenile courts and probation: Recent progress of the juvenile-court movement. pp. 150-167.

Montgomery, Mrs. Alice B. The child of the juvenile court. pp. 167-172.

Thurston, Henry W. Some phases of the probation work of the juvenile court [Chicago]. pp. 177-185.

1906. Folks, Homer. Juvenile probation. pp. 117-123.

Friday, Lucy. Work of the probation officer in court. pp. 136-138.

Hart, Hastings H. Report of the committee on children. pp. 87-93.

Mack, Judge Julian W. The juvenile court; the judge and the probation officer. pp. 123-131.

Ramsey, Mrs. Annie. Work of probation officer preliminary to the trial. pp. 132-136.

1907. Hurley, Timothy D. Juvenile probation. pp. 225-232.

1908. Mack, Judge Julian W. Juvenile courts as part of the school system of the country. pp. 369-383.

1909. Wade, Frank E. The prosecution of parents for the delinquencies of their children. pp. 297-307.

1910. Flexner, Bernard. A decade of the juvenile court. pp. 105-116.

Jewell, Judge Harry D. The status of the juvenile court in the exercise of the functions of the State as the ultimate parent of the children. pp. 149-152.

1911. Baldwin, Roger N. The selection and training of probation and attendance officers. pp. 390-400.

1912. Hotchkiss, Willard E. The juvenile court as it is to-day. pp. 450-459.

1913. Merrill, Lilburn, M. D. Diagnostic methods as an aid in juvenile-court administration. pp. 324-332.

1914. Addams, George S. Defectives in the juvenile court. pp. 317-322.  
Healy, William, M. D. Psychological work with offenders for the court. pp. 298-305.

**National Conference of Social Work—Continued.**

1915. Jones, Cheney C. The relation of private societies to juvenile courts and to State bureaus of protection. pp. 149-163.
1916. Gascoyne, John J. How can the probation officer best help the teacher? pp. 583-585.  
Latimer, Judge J. Wilmer. The juvenile court in its relation to public education. pp. 576-583.
1917. Chute, Charles L. The juvenile court, its operation and interrelations. pp. 279-281.  
Rippin, Jane Deeter. The coordination of the juvenile court with other courts. pp. 276-278.  
Whitman, Alfred F. Keeping neglected children out of court. pp. 86-92.
1919. Murphy, Joseph P. The county probation service in action. pp. 119-125.  
Parsons, Herbert C. Probation and parole; report of the subcommittee. pp. 113-118.
1920. Barrow, Ralph S. The place of the juvenile court in the care of dependent children from the standpoint of a probation officer. pp. 107-109.  
Bidgood, Lee. The juvenile court and the dependent child. pp. 109-110.  
Bretthauer, H. F. The social-service aspects of juvenile-court administration. pp. 173-175.  
Brown, Charles L. Coordinating the work of public and private agencies in probation service. pp. 18-26.  
Lindsey, Judge Ben B. The spirit of social service. pp. 43-46.  
Murphy, Judge Samuel D. The aims and methods of the juvenile court as distinguished from criminal proceedings in general. pp. 169-173.  
Ricks, Judge James Hoge. The place of the juvenile court in the care of dependent children. pp. 104-107.  
Todd, Arthur J. The desired minimum of sociological insight for workers with delinquents. pp. 70-73.
1921. Healy, William, M. D. How to study a case of delinquency. pp. 123-127.  
Swift, Wiley H. A redefining of the scope and functions of the juvenile court in terms of the rural community. pp. 89-92.
1922. Chute, Charles L. The needs and future of the probation service. pp. 174-178.  
Lundberg, Emma O. The juvenile court as a constructive social agency. pp. 155-160.  
Workum, Ruth I. The relationship between the functions of the juvenile court and those of general child-caring agencies. pp. 141-145.

**National Conference of Catholic Charities. *Proceedings.***

1910. Hurley, Timothy D. Juvenile probation. pp. 262-269.  
Reid, A. B. Cooperation with the juvenile court. pp. 252-262.
1914. Boone, Caroline E. What ought we to do in probation work? pp. 249-255.  
Fagan, Bernard J. What are we doing in probation work? pp. 242-248.  
Mooney, M. P. The scope of probation. pp. 234-242.

**National Conference of Catholic Charities—Continued.**

- 1920. McHugh, Rose J. The proper relation between the volunteer worker and the courts. pp. 272-281.
- 1921. Quinlan, Mrs. Emma. Detention homes for boys and girls. pp. 183-186.
- Sheridan, Judge Michael. Treatment of juvenile offenders in Milwaukee. pp. 160-164.
- Sweetser, Mrs. Teresa M. The efficiency of juvenile-court treatment. pp. 189-192.

**The American Academy of Political and Social Science. *The Proceedings of the Annual Meetings.* Published in *Annals* of the academy.**

- 1902. Juvenile Courts. (*Annals*, Vol. 20.)
- Amy, Frederic. Juvenile courts in Buffalo. pp. 279-285.
- Beitler, Abraham M. The juvenile court in Philadelphia. pp. 271-276.
- Williamson, Mrs. Emily E. Probation and juvenile courts. pp. 259-267.
- 1910. Administration of Justice in the United States: Juvenile Courts and the Treatment of Juvenile Offenders. (*Annals*, Vol. 36.)
- Baker, Harvey H. Private hearings; their advantages and disadvantages. pp. 80-84.
- De Lacy, Judge William H. Functions of the juvenile court. pp. 61-63.
- Falconer, Mrs. Martha P. Causes of delinquency among girls. pp. 77-79.
- Flexner, Bernard. The juvenile court; its legal aspects. pp. 49-56.
- Hart, Hastings H. Distinctive features of the juvenile court. pp. 57-60.
- Staaake, Judge William H. Juvenile courts and probation in Philadelphia. pp. 71-76.
- Wilkin, Judge Robert J. The responsibility of parenthood. pp. 64-70.
- 1914. Reform in Administration of Justice. (*Annals*, Vol. 52. Whole No. 141.)
- Bartelme, Mary M. The opportunity for women in court administration. pp. 188-190.
- Eliot, Thomas D. The trend of the juvenile court. pp. 149-158.
- Lindsey, Edward. The juvenile-court movement from a lawyer's standpoint. pp. 140-148.

**American Prison Association. *Proceedings of the Annual Congress.***

- 1902. Tuthill, Judge Richard S. The juvenile court law of Illinois. pp. 115-124.
- 1904. Henderson, Charles R. Report of the committee on preventive and reformatory work. pp. 127-139.
- 1905. Lindsey, Judge Ben B. Childhood and crime. pp. 170-182.
- 1906. Hart, Hastings H. The juvenile court—the uses and limitations. pp. 245-254.
- 1907. Mack, Judge Julian W. Prevention and probation. pp. 26-33.
- 1908. Thurston, Henry W. What should a probation officer do for the child? pp. 45-55.
- 1909. Murasky, Judge Frank J. The sources of crime. pp. 208-212.
- 1911. Amigh, Mrs. Ophelia L. The general effect of probation upon girls who afterwards become subject to institutional care. pp. 133-137.

**American Prison Association—Continued.**

1912. Adams, C. B. Report of standing committee on prevention and probation. pp. 329-337.
1913. Hunter, Joel D. The duties of a probation officer. pp. 313-319.  
McKelway, A. J. Child labor and crime. pp. 144-154.
1916. Carstens, C. C. Report of the standing committee on prevention and probation. pp. 244-258.
1920. Bates, Sanford. The possibilities and methods of increasing parental responsibility for juvenile delinquency.  
Bronner, Augusta F. The laboratory and the juvenile court. pp. 94-95.  
St. John, Judge L. E. Probation possibilities. pp. 381-388.
1921. Lundberg, Emma O. Juvenile courts—present and future. pp. 48-57.

**National Probation Association. *Proceedings.***

1915. Probation in the United States:  
Chute, Charles L. Rural probation work. pp. 44-51.  
Dolan, Judge Patrick J. Problems of the juvenile court. pp. 57-61.
1916. The Progress of Probation:  
Baldwin, Roger N. Report of the special committee on development of standards in juvenile-court work. pp. 84-92.  
Gasgoyne, John J. The judge and the probation officer. pp. 110-112.  
Greene, Judge Samuel W. Probation in the juvenile court. pp. 76-80.  
Lahr, Judge Frank V. The juvenile court, the child, and the family. pp. 107-110.  
Miner, Maude E. Probation work with girls. pp. 105-107.  
Parris, Thomas G. The organization of a probation force in a large city. pp. 45-57.  
Parsons, Herbert C. State supervision and organization of probation work. pp. 121-126.
1917. Social Problems of the Courts:  
Brown, Judge Charles L. The value of a probation department to a judge. pp. 117-120.  
Chute, Charles L. The juvenile court, its operation and interrelation. pp. 133-136.  
Clark, B. Howard. Reaching the adult responsible for the delinquent and neglected child. pp. 71-73.  
Healy, William, M. D. Study of causations of delinquency. pp. 64-70.  
Hoffman, Judge Charles W. Report of the committee on courts of domestic relations. pp. 82-86.  
Richmond, Mary E. The social case-work side of probation and parole. pp. 117-120.  
Thurston, Henry W. Report of the committee on rural probation. Rural probation problems. pp. 129-132.  
Towne, Arthur W. The place of the juvenile-court detention home in the community. pp. 53-63.
1918. The Social Work of the Courts:  
Hart, Hastings H. Report of the joint committee. Juvenile courts in rural communities. pp. 60-75.



**National Probation Association—Continued.****1918. The Social Work of the Courts—Continued.**

Hoffman, Judge Charles W. Committee report: Standards for supervising persons on probation. pp. 90-105.

Todd, Arthur J. The probation officer in the new social realignment after the war. pp. 106-114.

**1919. Social Courts and Probation:**

Additon, Henrietta. Should the schools take over the work of the children's courts? pp. 84-98.

Hoffman, Judge Charles W. Probation as a juridical policy. pp. 17-28.

Murphy, Joseph P. The county probation service in action. pp. 135-152.

Ricks, Judge James Hoge. Should the schools take over the work of the children's courts? pp. 98-105.

Woolley, Mrs. Helen T. Should the schools take over the work of the children's courts? pp. 105-112.

**1920. Social Service in the Courts:**

Barrow, Ralph S. The place of the juvenile court in the care of dependent children from the standpoint of a probation officer. pp. 133-136.

Beasley, Judge Roland F. A state-wide juvenile-court system. pp. 60-63.

Bidgood, Leo. The juvenile court and the dependent child. pp. 133-136.

Bretthauer, H. F. The needs of probation in the South, pp. 46-51.—The social-service aspects of juvenile-court administration, pp. 155-158.

Bronner, Augusta F. The value to the probation officer of study of the offender. pp. 86-89.

Chute, Charles L. Juvenile delinquency a community problem. pp. 136-138.

Erickson, Mrs. Jennie W. Report of the committee on rural probation. pp. 53-56.

Murphy, Judge Samuel D. The aims and methods of the juvenile court as distinguished from criminal procedure in general. pp. 147-155.

**1921. Social Treatment of the Delinquent:**

Lenroot, Katharine F. Juvenile detention homes. pp. 92-100.

Sheridan, Judge Michael S. The Milwaukee juvenile court. pp. 86-91.

Waite, Judge Edward F. Courts of domestic relations. pp. 59-70.

**1922. The Social Service of the Courts:**

Abbott, Edith. Training in case work and special administrative problems in a university. pp. 59-68.

Astredo, J. C. State supervision and organization of probation work: Report of the committee. pp. 188-192.

Chute, Charles L. The needs and future of the probation service. pp. 20-28.

Elliot, Thomas D. The unofficial treatment of children quasi-delinquent: Report of the committee on juvenile courts. pp. 68-103.

**National Probation Association—Continued.****1922. The Social Service of the Courts—Continued.**

- Haggerty, James E. Training for probation workers in colleges and universities. pp. 51-59.
- Lundberg, Emma O. The Children's Bureau Committee on Juvenile-Court Standards. pp. 116-118.
- McDermott, Mrs. Lillian D. Report of the committee on rural probation. pp. 183-186.
- Platt, Charles, M. D. The psychology of puberty—its relation to probation. pp. 103-110.
- Ricks, Judge James Hoge. Report of the committee on family courts. pp. 119-126.
- Stern, Leon. Report of the committee on probation, education, and extension. pp. 31-45.
- Thurston, Henry W. The training of probation officers in schools of social work. pp. 45-51.
- Warrington, Mrs. Carina C. The work of the State probation officer in Indiana. pp. 192-199.
- Zuerner, William F. Detention homes: Report of the committee. pp. 111-116.

**STATE CONFERENCES.****Arkansas State Conference of Charities and Correction. *Proceedings.***

1912. Terry, Mrs. David D. Juvenile courts. pp. 23-27.

**California State Conference of Charities and Corrections. *Proceedings.***

1904. Lindsey, Judge Ben B. The child and the State. pp. 12-27.
- Moore, Dorothea. The detention homes of the State. pp. 33-35.
- Murasky, Judge Frank J. Address: Treatment of young offenders. pp. 28-32.
1906. Klamroth, Judge H. H. Probation work. pp. 116-119.
- Wilbur, Judge Curtis D. The juvenile court with special reference to its ramifications. pp. 108-115.
1911. McCall, Beatrice A. What we know about the girl problem. pp. 65-66.
1916. Shontz, Orpha Jean. The work of the referee. p. 151.
- Vann, Harold K. Probation and probation officers; increased efficiency. pp. 149-151.

**Connecticut State Conference of Charities and Correction. *Proceedings.***

1910. Love, Rev. William De Loss. Juvenile probation, its use and abuse. Published in a special report of the State Board of Charities. pp. 99-103.
1912. Baker, Judge Harvey H. Juvenile courts and probation. pp. 163-168.

**Florida State Conference of Charities and Correction. *Proceedings.***

1914. Lanier, J. C. The function of the juvenile court and juvenile probation. pp. 39-43.

**Illinois Conference on Public Welfare. *Proceedings.***

1921. Persons, Judge Perry L. Some responsibilities of the juvenile court. pp. 14-16.

**Illinois State Probation Officers Association. Conference Proceedings.**

1921. (In *Proceedings of the Illinois Conference on Public Welfare*, 1921.)  
Badger, W. S. Rural probation from the standpoint of the field worker. pp. 66-67.  
Griffith, Judge L. O. The prodigal daughter. pp. 62-65.

**Indiana State Conference of Charities and Correction. Proceedings.** Published in the *Indiana Bulletin of Charities and Correction*.

1911. *Bulletin*, June, 1912.  
Bottorff, Mrs. Catherine. Problems of the rural volunteer. pp. 299-303.  
Fieser, James L. Truancy and the juvenile court. pp. 304-306.  
Taylor, Judge Newton M. The juvenile court. pp. 294-297.
1918. *Bulletin*, June, 1919.  
McMahon, Judge Willis C. The juvenile court. p. 272.
1919. *Bulletin*, March, 1920.  
Barry, Mrs. Emma. The practical probation officer. pp. 81-83.  
Lockyear, Judge E. Q. The juvenile court. pp. 84-86.
1920. *Bulletin*, June, 1921.  
Estabrook, Arthur H. The value of a mental clinic in the juvenile court. pp. 174-176.  
Lieber, Mrs. Richard. The work of the probation officer. pp. 178-183.  
Somerville, Isabelle. The work of the probation officer. pp. 176-178.
1921. *Bulletin*, June, 1922.  
Warrington, Mrs. Carina C. Probation service. pp. 76-78.

**State of Indiana Conference on Delinquency. Proceedings.**

1922. Hoffman, Judge Charles W. Children and the law. pp. 70-85.  
Warrington, Mrs. Carina C. The juvenile court. pp. 88-92.

**Iowa State Conference of Charities and Correction. Proceedings.**

1904. Wakefield, Judge George W. The juvenile court act and the juvenile court. pp. 25-30.
1905. Burnham, Judge J. W. The juvenile court law and needed changes. pp. 43-54.
1906. Howe, Judge James A. The Iowa juvenile court law, its provisions and its needs. pp. 42-50.
1909. (January.) Coffman, Mildred A. The detention home. pp. 61-65.
1909. (November.) Matthews, Lillian R. The needs of our juvenile courts. pp. 78-85.
1911. Houghton, H. L. The relation of the juvenile court to crime. pp. 86-89.
1912. Ditzen, Mrs. H. E. C. Juvenile officer in the divorce court. pp. 140-141.
1915. Holmes, Mrs. W. E. The beginnings of the juvenile court in Iowa. pp. 98-104.  
Mangold, George B. The possibilities of juvenile-court work in rural States. pp. 104-106.
1916. Hunter, Joel D. The social significance of the probation officer and his work. pp. 27-33.

**Kansas Conference of Charities and Correction. *Proceedings.***

1907. Countryman, Judge L. E. The juvenile-court system of Kansas in rural districts. pp. 45-48.
- Kirk, Judge O. D. The juvenile-court system of Kansas in cities. pp. 43-45.
1909. Schoch, Judge W. F. How can jurisdiction over adults contributing toward dependency and delinquency be enforced by juvenile judges? pp. 20-24.

**Maryland Conference of Charities and Correction. *Proceedings.***

1909. Riggs, Lawrason. Organization and working of the juvenile court. pp. 180-183.

**Minnesota State Conference of Social Work. [Formerly the State Conference of Charities and Correction.] *Proceedings.***

1908. Franklin, George A. The extension of the juvenile court to all the counties of the State. pp. 83-88.
1917. Published in a special edition of the *Quarterly Bulletin of the State Board of Control*, August 5, 1918.
- Everett, C. E. Probation officers in the rural county; work and methods. pp. 89-92.
- Waite, Judge Edward F. New juvenile court law, pp. 164-169.— (Leader of discussion) How can the juvenile court make use of county child-welfare boards? pp. 182-190.
1920. Published in a special edition of the *Quarterly Conference Bulletin of the Executive Officers of State Institutions and the State Board of Control*. St. Paul.
- Bartelme, Mary M. Probation for girls. pp. 19-23.

**Minnesota Quarterly Conference of the Executive Officers of the State Institutions with the State Board of Control. *Proceedings.*** Published in *Quarterly Representing the Minnesota Educational, Philanthropic, Correctional, and Penal Institutions under the State Board of Control*. St. Paul.

- 1910, February 2. Orr, Judge Grier M. Juvenile-court work. *Quarterly*, vol. 9, No. 3, pp. 79-82.
- 1915, November 2. Orr, Judge Grier M. The juvenile court and its relation to the State institutions. *Quarterly*, vol. 15, No. 2, pp. 58-62.
- 1921, August 2. Bartelme, Mary M. The girls of to-day and juvenile-court methods. *Quarterly*, vol. 21, No. 1, pp. 8-13.
- 1922, August 8. Gould, Judge C. D. The juvenile court and the institution. Vol. 22, No. 1, pp. 16-24.

**Missouri State Conference of Charities and Corrections. *Proceedings.*** (For the years 1917 and 1921 the Proceedings are published in the *Monthly Bulletin of the State Board of Charities and Correction* for June, 1918, and January, 1922, respectively.)

1914. Baldwin, Roger. The juvenile court law. pp. 30-31.
1917. Smith, Jesse P. Work of the juvenile court of St. Louis. pp. 52-55.
1921. Cockrell, Judge Ewing. Report on delinquency. pp. 16-21.
- Lundberg, Emma O. The juvenile court as a constructive social agency. pp. 21-25.
- Newkirk, George L. Juvenile delinquency. pp. 25-26.

**New Hampshire Conference of Charities and Correction. *Proceedings.***

1911. Leighton, Judge E. E. The juvenile court. pp. 47-52.

**New Jersey Conference of Charities and Correction. *Proceedings.***

1916. Culver, Delphia. Juvenile detention homes. pp. 82-87.

**New York State Conference of Charities and Correction. *Proceedings.***

1901. Almy, Frederic. Juvenile courts and juvenile probation. pp. 283-295.
1902. Murphy, Judge Thomas. The juvenile court of Buffalo. pp. 135-139.
1918. Hoffman, Judge Charles W. Social problems of the courts. pp. 19-28.
1920. Paddon, Mrs. Mary E. The relation of courts and children. pp. 79-82.
- Taylor, Ruth. The relation of parents and children. pp. 72-74.
1921. Cobb, W. Bruce. Wayward minors and parental responsibility. pp. 228-237.
- Thurston, Henry W. Need for a uniform county juvenile court law. pp. 145-152.

**New York. Annual Conference of the State Association of Magistrates. *Proceedings.* Published in *Annual Reports of the New York State Probation Commission.* Albany.**

1909. Includes: Discussions on contributory delinquency of adults; separate trials for women and children.—Letter on children in the courts by Preston H. Clay.
1910. Includes: Discussions on procedure in cases of children; compulsory school attendance laws enforced by the courts.
1912. Ryan, Judge Morgan M. L. Probation in cases of children. pp. 138-145.
- Wade, Frank E. The administration of the probation system. pp. 129-138.
1913. Hall, George A. A children's court with enlarged powers. pp. 205-206.
1914. Shove, Judge Benjamin J. Children's court problems. pp. 320-325.—Discussion, pp. 325-332.
1915. Beall, Judge Joseph H. Probation for juveniles—when it is applicable and when not. pp. 451-455.—Discussion. pp. 455-464.
1918. Includes discussion on needed changes in the laws and procedure relating to children's and domestic relations cases, with especial reference to the interpretation of subdivision one, section 899, of the code of criminal procedure. pp. 428-440.

**New York. Annual State Conference of Probation Officers. *Proceedings.* Published in *Annual Reports of the New York State Probation Commission* for the same year. Albany.**

1910. Button, Lucius L., M. D. Mental deficiency and its relation to probation. pp. 150-153.
- Discussions: Preliminary investigations in cases of children, pp. 117-121.—Physical and mental examinations, pp. 121-124.—The big brother movement, pp. 139-140.—Improving home conditions in cases of children, pp. 141-145.—Powers of probation officers, pp. 148-149.—Violation of probationary conditions by children, pp. 154-158.—Newspaper publicity, pp. 165-167.

**New York. Annual State Conference of Probation Officers—Continued.**

1911. Discussions: How to deal with boy probationers under 16 years of age, pp. 196-205.—How to deal with girl probationers under 16 years of age, pp. 206-217.
1912. Hart, Hastings H., M. D. Juvenile probation. pp. 273-279.  
Shove, Judge Benjamin J. Juvenile detention home. pp. 202-208.  
Thalheimer, Mrs. Max. The functions and value of probation associations and committees. pp. 227-232.  
Thurston, Henry W. Positive versus negative methods in case treatment of juvenile probationers. pp. 280-295.—Discussion, pp. 295-302.
1913. Clopper, Edward N. The relation of probation officers to child employment, pp. 132-136, 145.—Discussion of the question, pp. 136-146.  
Cooley, Edwin J. Cooperation with other agencies, pp. 148-153.—Discussion of the question, pp. 153-158.  
Leitch, Frances E. Probation for women offenders. pp. 107-113.  
Shea, Timothy J. Experience with juvenile probationers. pp. 121-125.  
Stephens, Judge John B. M. Investigations by probation officers. pp. 170-173.
1914. Discussions: Immigrants and their children on probation, pp. 148-161.—Girls and women on probation, pp. 161-174.—Rural probation work, pp. 175-191.—The detention and care of children preliminary to final disposition, pp. 191-209.—Needs and difficulties in probation work, pp. 228-259.  
Stephens, Judge John B. M. The county plan for children's cases. pp. 132-141.  
Wade, Frank E. Children's courts and probation. pp. 127-130.  
Wilkin, Judge Robert J. Children's courts and probation. pp. 141-147.
1915. Chute, Charles L. Records and reports. pp. 285-291.  
Wade, Frank E. Juvenile delinquency, its cause and effective treatment. pp. 230-236.  
Discussion: Informal and preventive work; keeping cases out of court. pp. 327-340.
1916. Thurston, Henry W. The full measure of responsibility in probation work. pp. 200-206.  
Towne, Arthur W. The probation officer's opportunity. pp. 148-158.  
Discussions: Home visiting: Where, when, and how? pp. 159-171.—Finding out and securing treatment for physical and mental defects, pp. 172-186.—Should there be special probation officers assigned exclusively to preliminary investigations? pp. 189-190.
1917. Cooley, Edwin J. Current tendencies in probation work. pp. 289-297.  
Discussion: Methods of supervising probationers. pp. 247-267.
1918. Boardman, John R. Probation from the standpoint of the boy-scout movement. pp. 211-218.  
Hoffman, Judge Charles W. The social problems of the court. pp. 312-320.  
Martin, A. Lella. The place of the psychologist in determining the treatment of children brought before the court. pp. 246-252.

**New York. Annual State Conference of Probation Officers—Continued.**

1918. Miner, Maude E. The probation officer and the community. pp. 238-245.  
 Murphy, Joseph P. The county probation office—its ideals and possibilities. pp. 229-238.
1919. Denio, Mrs. Marie S. The use of volunteers, Big Brothers, and Big Sisters. pp. 208-210.  
 Marcus, Morris. Staff supervision and cooperation. pp. 204-208.  
 Rhodes, Sara L. The school and the probation officer—how can they best work together? pp. 186-192.
1920. Fagan, Bernard J. Administrative problems in probation work. pp. 86-90.  
 Discussions: What constitutes a violation of probation? Best methods for dealing with violators, pp. 55-59.—How can we keep reports from becoming perfunctory and ineffective? pp. 59-61.—How much can the probation officer do to awaken and aid parents as to responsibility toward their children? pp. 61-64.—The field for unofficial and preventive work by probation officers, pp. 71-73.
1921. Collins, Judge Cornelius F. Probation officers at work from the viewpoint of the judge. pp. 86-89.
1922. Buell, J. B. Professional aspects of probation work.  
 Charles, Rev. William R. Religious elements in probation work.  
 Lundberg, Emma O. The probation officer and the community.  
 Murphy, Joseph P. Professional aspects of probation work.  
 Town, Dr. Clara H. Delinquent and neglected children as community problems.

**Ohio State Conference of Charities and Correction. Proceedings.** Published in *The Ohio Bulletin of Charities and Correction*.

1908. Merrill, Judge H. A. The juvenile court. *The Bulletin*, February, 1909, pp. 99-101.
1917. Hunter, Joel D. Essential elements in the juvenile court. *The Bulletin*, June, 1918, pp. 10-15.
1918. Hoffman, Judge Charles W. Discussion of the relation of children's courts to children's homes. *The Bulletin*, July, 1919, pp. 87-88.  
 Spencer, Judge William S. The relation of juvenile courts to children's homes. *The Bulletin*, July, 1919, pp. 84-87.

**Ohio State Conference on Dependent Children** (in conjunction with the State Conference of Charities and Correction). *Proceedings*.

1914. St. John, Judge Lewis E. The interrelation of children's homes and juvenile courts. pp. 33-37.
1915. Cassidy, Judge John R. Problems of the juvenile court in a rural county. pp. 52-53.  
 Crouse, A. C. The probation officer, his opportunities and duties. pp. 47-51.  
 Spencer, Judge William. Jurisdiction of the juvenile court. pp. 43-46.
1917. Hunter, Joel D. Essential elements in the juvenile court. Published in *The Ohio Bulletin of Charities and Corrections*, June, 1918. pp. 10-15.

**Pennsylvania Conference of Charities and Correction. *Proceedings.***

1911. Crocker, William D. Report of the committee on the courts and the child. pp. 14-17.  
 Falconer, Mrs. Martha P. The development of the juvenile court in relation to Pennsylvania. pp. 17-23.  
 Wallace, Roy Smith. The need for a State probation commission. pp. 27-32.
1912. Dugan, Mrs. W. B. The interrelation of probation officers with charity-organization societies and other agencies. pp. 51-53.  
 Richardson, Henry P. Principles underlying use of detention home. pp. 23-33.

**Texas State Conference of Social Welfare. *Proceedings.***

1917. Boyd, Ewing. State laws affecting children of the juvenile court. pp. 20-22.

**Vermont Conference of Charities and Correction. *Proceedings.***

1917. Van Patton, W. J. The children of Vermont. Provisions made by the State for the dependent, neglected, and delinquent children of the State. pp. 36-38.

**Virginia Conference of Charities and Correction. *Proceedings.***

1917. Downing, Rev. L. L. The probation officer and the delinquent child. pp. 21-23.
1921. Dey, Judge W. W. A model juvenile court. pp. 20-23.

**Washington State Conference of Charities and Correction. *Proceedings.***

1915. Merrill, Lilburn, M. D. The field and value of the juvenile court. pp. 50-52.

**Wisconsin State Conference of Charities and Correction. *Proceedings.***

1914. Bartelme, Mary M. Helping the delinquent girl. pp. 42-49.  
 Eschweiler, Judge Franz C. The juvenile offender on trial and probation. pp. 116-120.  
 Reis, Judge A. H. Report of committee on probation and prevention. pp. 56-62.
1915. Smith, Hon. Ralph E. The need of probation officers in communities of less than 100,000 population and in rural communities. pp. 33-39.
1916. Fowler, Judge C. A. Report of the committee on probation. pp. 82-93.
1917. Goss, Judge A. H. Report of the committee on probation. pp. 31-38.
1918. Hoffman, Judge Charles W. The court of domestic relations on a program of family conservation. pp. 73-82.
1920. Higbee, Judge Clark E. What our courts are doing and what they can do (in applying mental hygiene in cases of delinquency). pp. 83-89.
- Perrin, Judge Solon. The delinquent in court. pp. 117-124.

**CITY CONFERENCES.****New York City Conference of Charities and Correction. *Proceedings.***

1911. Wilkin, Judge Robert J. The delinquent parent. pp. 174-178.
1917. Bingham, Anne T., M. D. Clearing houses as aids to court work, probation, and parole. pp. 174-185.—Discussion. pp. 185-189.



**New York City Conference of Charities and Correction—Continued.**

1918. Fagan, Bernard J. Report of the committee on probation and parole. pp. 104-110.
1919. Towne, Arthur W. Should the age jurisdiction of juvenile delinquents in New York State be increased to eighteen years? pp. 107-116.
1920. Levy, Judge Samuel D. Mental examinations and the children's court. pp. 119-123.

**New York City Conference on Probation. *Proceedings.* Published in *Proceedings of the New York State Probation Commission* for the same year. Albany.**

1911. Herbert, Judge Henry W. The legal aspects of probation. pp. 281-287.
- Lewis, Orlando F. Preliminary investigations. pp. 294-299.
- Mulready, Edwin. How to look after and aid probationers. pp. 301-307.
- Towne, Arthur W. Aids to efficiency [in probation work]. pp. 310-316.
- Wade, Frank E. How to discover and deal with violations of probationary conditions. pp. 318-331.
1913. Towne, Arthur W. Address. pp. 290-297.
1914. Collins, Judge Cornelius F. Supervision of improper guardianship cases. pp. 385-387.
- Coulter, Ernest K. and Wise, Rabbi Stephen S. Discussion on co-operation with other social agencies. pp. 413-418.
- Folks, Homer. Increased efficiency in probation work. pp. 373-381.
- Jones, Olive M. School problems and probation. pp. 383-385.
- McAdoo, Judge William. Suggestions for increasing efficiency in probation. pp. 403-413.
- Snow, William F., M. D. Sex hygiene and the probation officer. pp. 387-393.
1915. Towne, Arthur W. Needs and hindrances in the development of effective probation work. pp. 219-223.

## **PUBLISHED ANNUAL REPORTS OF COURTS HEARING CHILDREN'S CASES.<sup>1</sup>**

- Baltimore, Md.** Report of the Juvenile Court of Baltimore City. 1913.  
(Later statistics in Report of Police Commissioners for the City of Baltimore.)
- Boston, Mass.** Report for years 1906-1916. Harvey Humphrey Baker—Up-builder of the juvenile court. Judge Baker Foundation.
- Probation Statistics contained in Annual Report of the Massachusetts Commission on Probation.
- Buffalo, N. Y.** Annual Report of the Children's Court of Buffalo. 1921.
- Chicago, Ill.** Juvenile Court and Juvenile Detention Home of Cook County, Illinois; annual report of the chief probation officer of the juvenile court and of the matron of the juvenile detention home. 1921.
- Jersey City, N. J.** Annual Report of the Juvenile Court of the County of Hudson, N. J. 1919.
- Los Angeles, Calif.** Annual Report, Los Angeles County Probation Department. 1919.
- Minneapolis, Minn.** The Juvenile Court of Hennepin County, Minnesota, with report of Hennepin County Probation Office, Hennepin County Home School for Boys, Hennepin County Home School for Girls, Juvenile-Court Physician and Surgeon. 1919.
- Newark, N. J.** Annual Report of the Probation Officer of the County of Essex. 1920.
- New Orleans, La.** Annual Report of the Juvenile Court for the City of New Orleans. Reprinted from Annual Report of the Louisiana Society for the Prevention of Cruelty to Children. 1920.
- New York City, N. Y.** Annual Report of the Children's Court of the City of New York. 1919.
- Norristown, Pa.** Annual Report of the Probation Officer of the Juvenile Court of Montgomery County. 1917.
- Philadelphia, Pa.** Annual Report of the Municipal Court of Philadelphia: Report of the Juvenile Division. 1921.
- Richmond, Va.** Annual Report of the Juvenile and Domestic-Relations Court of Richmond, Va. 1921.
- Salt Lake City, Utah.** Report of Juvenile Court of the Third District contained in Annual Report of the Juvenile-Court Commission, of the State of Utah, Capitol, Salt Lake City. 1922.
- St. Louis, Mo.** Report of the Juvenile Court and Probation Office. 1919.
- St. Paul, Minn.** Annual Report of the Chief Probation Officer, Ramsey County, Minn. 1919.
- San Francisco, Calif.** Annual Report of the San Francisco Juvenile Court and Reports of the San Francisco Juvenile Detention Home. 1916.
- Seattle, Wash.** Annual Report of the King County Juvenile Court. 1921.
- Syracuse, N. Y.** Annual Report of the Children's Court and Chief Probation Officer. Special Sessions Court. 1918.
- Washington, D. C.** Annual Report of Clerk and Chief Probation Officer of Juvenile Court, District of Columbia. 1917.
- Wilmington, Del.** Report of the Wilmington Juvenile Court and Probation Association. 1917.
- Winston-Salem, N. C.** Annual Report of the Chief Probation Officer of Winston-Salem, Forsyth County. 1919.

---

<sup>1</sup> With date of latest printed report.

# SELECTED REFERENCES ON JUVENILE COURTS AND COMMISSIONS IN FOREIGN COUNTRIES.

## GENERAL REFERENCES.

**Third International Congress for the Welfare and Protection of Children**, held in London, 1902. Report of the Proceedings. P. S. King & Son, London, 1902.

Albanel, Judge L. The reclamation of vicious children [with special reference to France]. pp. 145-147.

Barrett, Rosa M. The reform of young criminals [with special reference to Great Britain]. pp. 135-143.

Elliott, Ada. The American system of probation officers. pp. 54-61.

Flandin, Paul. The reform of young criminals [with special reference to France]. pp. 128-134.

**Legislation in Regard to Children**; report of the proceedings at the special conference, May 22 and 23, 1906, in London, convened by the Committee of the British Section of the International Congress for the Welfare and Protection of Children (held in London in 1902). P. S. King & Son, London, 1906.

Adler, Miss. Children's courts and probation officers. pp. 18-25.

Baker, Miss. Remand homes. pp. 10-18.

Kleine, Marcel. The probation system for young offenders in Paris. pp. 41-42.

Lord, Courtenay, J. P. Children's courts. pp. 25-31.

Sheffield, Mrs. Dwight. Recent developments of the probation system in the United States. pp. 33-40.

**Les Tribunaux spéciaux pour Enfants**: Aux États-Unis, par Édouard Julhiet; en France, par Henri Rollet; en Angleterre, par Marcel Kleine; en Allemagne, par Maurice Gastambide. Préface de M. Bérenger. Administration de la Revue l'Enfant. Paris. 1906. 299 pp.

The organization and methods of special courts for children in the United States, France, England, and Germany.

**International Prison Congress**. Proceedings. 1910. (In *American Prison Association, Proceedings*, 1910. Published in New York City.)

Grimanelli, P. Juvenile delinquents [with special reference to their treatment in France]. pp. 336-344.

Neander, Paul. Juvenile courts [in Russia]. pp. 348-349.

Van der Aa, Dr. Simon. Juvenile delinquents [their treatment in The Netherlands]. pp. 359-361.

Resolutions adopted relating to the "penal procedure" to be applied to juvenile delinquents. pp. 262-263.

**Davis, Katharine Bement**. The Section on Children. *The Survey* (New York City), Vol. 25 (Nov. 5, 1910), pp. 222-224.

The resolutions passed by the International Prison Congress of 1910 relative to the treatment of juvenile delinquents.

**Silbernagel, Dr. Alfred**, Zivilgerichtspräsident. *Bekämpfung des Verbrechertums durch Rettung jugendlicher Delinquenten; Bestrebung und Reformen in den Vereinigten Staaten von Nordamerika, in Grossbritannien, Österreich, Ungarn, Italien, Dänemark, Schweden, Russland, und in der Schweiz.* Verlag von Stämpfli, et Cie. Bern. 1911. 183 pp.

The development of the juvenile-court movement in the United States, Great Britain, Austria, Hungary, Italy, Denmark, Sweden, Russia, and Switzerland, and a brief account of the reform movement in Spain, Portugal, Norway, and Egypt. An account is also included of the First International Congress on Juvenile Courts, held in Paris in 1911.

**André, Léonce** (Juge au Tribunal de Tarascon). *La Lutte contre la Criminalité juvénile, étude critique et de législation comparée sur la minorité pénale.* Librairie Nouvelle de Droit et de Jurisprudence. Arthur Rousseau, Éditeur. Paris. 1912.

An account of juvenile courts, or other special institutions exercising their functions, in Belgium, Denmark, Egypt, France, Germany, Great Britain, Hungary, Italy, Norway, Russia, Spain, Switzerland, and the United States. pp. 201-286.

**Champoiral, Ruben** (Docteur en droit). *Étude de Droit Comparé sur la Question des Tribunaux pour Enfants; deux solutions législatives; loi belge du 15 mai 1912 et loi française du 22 juillet 1912.* Jules Rousset. Paris. 1913. 260 pp.

An account of the juvenile court laws passed in Belgium and in France in 1912.

**Premier Congrès International des Tribunaux pour Enfants**, Paris. 1911. *Actes du Congrès.* Imprimerie Typographique A. Davy. Paris. 1912. 688 pp. Proceedings of the First International Congress on Juvenile Courts. Reports were read on the juvenile-court problem in Austria-Hungary, Belgium, England, France, Germany, Italy, Russia, Spain, Sweden, Switzerland, and the United States.

**Europe and the Juvenile Court.** Editorial. *The Survey* (New York City), vol. 29 (Jan. 25, 1913), p. 540.

**Griffe, Clément** (Docteur en droit). *Les Tribunaux pour Enfants; étude d'organisation judiciaire et sociale.* Fontemoing et Cie, Éditeurs. Paris. 1914. 392 pp.

The development and organization of juvenile courts or institutions serving a similar purpose in Belgium, England, France, Germany, Hungary, Russia, Switzerland, and the United States.—An account of the First International Congress of Juvenile Courts held in Paris in 1911, and of the First International Congress for the Protection of Children held in Brussels in 1913.

**Rupprecht, Landgerichtsrat.** *Europäische Jugendgerichts-Gesetzgebung.* *Deutsche Strafrechtszeitung* (Berlin). Vol. 1 (1914), pp. 211-215.

**Juvenile Courts Abroad.** Unsigned article. *The Survey*, vol. 45 (Nov. 13, 1920), p. 252.

**Deuxième Congrès International de la Protection de l'Enfance**, Bruxelles, 1921. Imprimerie de l'Office de Publicité, Bruxelles. 2 tomes.

Volume 1 contains: Reports on the question of cooperation between juvenile courts and public and private agencies, presented by Mr. Caloyanni (Cairo), Ben B. Lindsey (Denver), Ernest Passez (Paris), and Paul Wets (Brussels). pp. 1-55.—Reports on methods of preparing children committed to public or

private institutions by the juvenile court, through training and supervised parole, for life in the community, presented by Ugo Conti (Siena), Fanny Dalmazzo (Turin), Édouard Julhiet (Paris), and Mr. Wauters (Brussels), pp. 56-106.

Volume 2 includes discussions on juvenile courts or agencies serving a similar purpose, contained in the reports of delegates from various countries, as follows: BELGIUM: La loi du 15 mai 1912 et le juge des enfants, by Dr. Henri Velge, pp. 8-13.—FRANCE: Organisation des tribunaux pour enfants, by Judge Henri Rollet, pp. 120-126.—GREAT BRITAIN: Préservation morale de l'enfance et tribunaux pour enfants. (Unsigned.) pp. 403-405.—NORWAY: Préservation morale de l'enfance et tribunaux pour enfants, by Dr. Axel Johannessen, pp. 213-219.—POLAND: Les mesures prises pour la préservation morale de l'enfance et l'organisation des tribunaux pour enfants, by Dr. Alexandre Mogilnicki, pp. 435-441.—PORTUGAL: Le régime pénal des mineurs délinquants, by Judge Pedro Augusto Pereira de Castro, pp. 283-292.—SPAIN: Le juge des enfants, by Dr. Quintiliano Saldaña, pp. 78-82.—SWEDEN: Préservation morale de l'enfance, by Judge Jacob Linders, pp. 329-335.—SWITZERLAND: Organisation des tribunaux pour enfants, by Dr. Alfred Silbernagel, pp. 357-361.—THE NETHERLANDS: Tribunaux pour enfants, by Dr. J. P. de Meyere, pp. 237-251.—UNITED STATES: Enfants délinquants; tribunaux pour enfants, by Blanche V. Mitchell, pp. 103-104.

**Second International Congress** [for the Promotion of Child Welfare], Brussels, July, 1921. Work of the Different Sections. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 2 (December, 1921).

The moral protection of childhood and juvenile courts. pp. 106-108.

## ARGENTINA.

**Pernin, Alfred J.** Protección a la infancia. Tribunales para niños. Pena Unos, Montevideo. 1919. 77 pp.

Reprint from the proceedings of the Second Child Welfare Congress held in Montevideo in 1919. A general discussion of the problem of juvenile delinquency in Argentina, the penal laws of that country, and measures for the protection of children.

## AUSTRALIA—NEW SOUTH WALES.

**MacKellar, The Hon. Charles K., M.L.C.** The Child, the Law, and the State; being a short account of the progress of reform of the laws affecting children in New South Wales, with some suggestions for their amendment and more humane and effective application. William Applegate Gullick, Government Printer, Sydney, 1907.

The historical development of provisions for the care of dependent and delinquent children, with particular reference to New South Wales. pp. 1-43.—The "Neglected children and juvenile offenders' act;" the State Children Relief Board, its nature, duties, and purposes. pp. 44-80.

## AUSTRIA-HUNGARY.

The following articles were written prior to the territorial changes resulting from the World War:

*Zeitschrift für Kinderschutz und Jugendfürsorge.* (Vienna.)

Vol. 1 (1909).

Bauer, Dr. Richard. Zur Praxis der Jugendgerichte in Österreich. pp. 160-163.

Vol. 2 (1910).

Waldkampf, Marianne Tuma von. Jugendgericht und Jugendgerichtshilfe. pp. 273-276.

Vol. 4 (1912).

Kesseldorfer, Dr. Heinrich. Vom Wiener Jugendgerichte. pp. 16-18.

Vol. 10 (1918).

Löhr, Grete. Ein Jahr Wiener Jugendgerichtshilfe. pp. 90-94.

*Zentralblatt für Vormundschafswesen, Jugendgerichte und Fürsorgeerziehung.* (Berlin.)

Vol. 1 (1909-1910).

Janisch, Landesgerichtsrat. Die österreichischen Jugendgerichte und ihre Vorbilder. pp. 205-210.

Vol. 5 (1913-1914).

Feisenberger, Staatsanwalt Dr. Das neue ungarische Jugendgerichtsgesetz. pp. 61-63.

See also General References, p. 29.

## BELGIUM.

**Collard-de Sloovere, Charles.** The Law Carton de Wiart on the protection of children in Belgium. *International Record of Child Welfare Work.* (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 3 (January-February, 1922), pp. 170-181.

A discussion of the administration of the Belgian law of May 15, 1912, relating to juvenile courts.

**Derély, Henry** (Docteur en droit). *Les Tribunaux pour Enfants en Belgique.* Librairie de la Société du Recueil Sirey. L. Larose et L. Tenin, Directeurs. Paris. 1913. 108 pp.

A discussion of the Belgian law of May 15, 1912, relating to juvenile courts.

**Maus, Isidore.** Directeur Général au Ministère de la Justice. *Commentaire Législatif de la Loi du 15 mai 1912 sur la Protection de l'Enfance.* Librairie de la Société du Recueil Sirey. L. Larose et L. Tenin, Directeurs. Paris. Librairie générale de Droit et de Jurisprudence. Veuve Ferdinand Larcier, Éditeur. Bruxelles. 1912. 589 pp.

The provisions of and a commentary on the Belgian law of May 15, 1912, relating to the protection and treatment of children.

See also General References, p. 29.

## BRAZIL.

**Comité Nacional Brasileiro do Primeiro Congresso Americano da Creação a realizarse em Julho de 1916 em Buenos-Aires em Commemoração do 1º Centenario da Independencia Argentina.** Imprensa Nacional. Rio de Janeiro—Brazil. 1916.

Includes the following reports:

Brito, Dr. Lemos. Da prophylaxia da criminalidade entre os menores. p. 13.

Moraes, Dr. Evaristo de. Criminalidade da infancia e da adolescencia. pp. 15-16.

Silviera, Dr. Alfredo Balthazar da. Tribunaes para creanças. pp. 7-8.—Criminalidade infantil. pp. 9-10.

## CANADA.

**Government of the Province of Saskatchewan [Canada].** Some Saskatchewan Legislation Affecting Women and Children. Issued under the authority of the President of Council, April, 1920. J. W. Reid, King's Printer, Regina [Saskatchewan], 1920.

The "children protection act." pp. 13-14.—The "juvenile courts act." p. 14.

**Billiardé, Judge F. J.** Winnipeg and child welfare—the juvenile court. *The Child* (London), vol. 1, pp. 848-850 (July, 1911).

—— Canadian citizens in the making. The juvenile court in Winnipeg. *The Child* (London), vol. 3, pp. 398-400 (February, 1913).

**Flexner, Bernard.** The Children's Court in Canada. *The Survey* (New York City), vol. 25 (Mar. 18, 1911), pp. 1028-1029.

*Social Welfare.* (Published by the Social Service Council of Canada, Toronto.)

Vol. 2. Henderson, Rose. Child labour, delinquency, and the standards of living [with special reference to the work of the juvenile court in Montreal]. pp. 16-17 (Oct. 1, 1919).

Macgill, Judge Helen Gregory. Reforming the juvenile delinquent. p. 13 (Oct. 1, 1919).

McKercher, Judge D. W. The juvenile court and the community. p. 11 (Oct. 1, 1919).

MacLachlan, Judge Ethel. Some specific problems in delinquency and neglect. pp. 48-51 (Nov. 1, 1919).

Vol. 3. Dickie, Gordon. The menace of delinquency. pp. 184-185 (Apr. 1, 1921).

Rose, Harold E. A. The juvenile court of Montreal; annual report of the year Jan. 1, 1920-Jan. 1, 1921. pp. 185-186 (Apr. 1, 1921).

Unsigned article. Juvenile courts in two Canadian cities [Regina and Toronto]. pp. 238-239 (June 1, 1921).

## CHILE.

**Pradel, Fernandez.** Child Welfare in Chili. Judiciary system and private activity. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 8 (October, 1922), pp. 621-631.

Includes a discussion of Chilean laws for the protection of children: Civil code of 1855; law No. 2675 of Aug. 26, 1912; supreme decree of July 12, 1913; law No. 3186 of Jan. 13, 1917.

## FRANCE.

**André, Léonce** (Juge au Tribunal de Tarascon). Tribunaux pour Enfants et Liberté Surveillée. Librairie Nouvelle de Droit et de Jurisprudence. Paris. 1914. 204 pp.

An account of penal laws in France as applied to minors before 1912, and a discussion of the provisions of the French juvenile court law of July 22, 1912.

**Bernardin, François Jean Louis.** Les Tribunaux pour Enfants et la Liberté Surveillée. J. Lévrier. Poitiers. 1914. 110 pp.

Juvenile courts and probation with special reference to the treatment of juvenile offenders in France.

**Popineau, Albert,** Docteur en droit. La Loi du 22 juillet 1912 sur les Tribunaux pour Enfants et Adolescents et la Liberté Surveillée. Aux Bureaux des Lois Nouvelles. Paris. 1914. 70 pp.

An analysis of the French law of July 22, 1912, relating to the treatment of juvenile offenders.

**Richard, G.** Analyse de la Loi de 22 juillet 1912 sur les Tribunaux pour Enfants et Adolescents et sur la Liberté Surveillée. Imprimerie et Librairie Générale de Jurisprudence. Paris. 1914. 100 pp.

The text of the French juvenile court law and a commentary on its provisions. A discussion of probation and of the relation between judicial and administrative authorities and the agencies to which minors may be sent.

**Guibourg, Léon.** Les Tribunaux pour Enfants et Adolescents; leur organisation et leur fonctionnement. *Revue des Tribunaux pour Enfants* (Paris). Vol. 1 (1914), pp. 21-48, 92-108, 177-203.

**Julhiet, Édouard.** Die Jugendgerichte in Frankreich. *Zeitschrift für Kinderschutz und Jugendfürsorge* (Vienna). Vol. 2 (1910), p. 150.

**Kahn, Paul** (Avocat à la Cour d'Appel). La première année d'application de la loi sur les tribunaux pour enfants et adolescents. *Revue des Tribunaux pour Enfants* (Paris). Vol. 2 (1915), pp. 1-19.

**Nast, Marcel** (Professeur agrégé à la faculté de droit de Nancy). Les Tribunaux pour Enfants. *Revue Philanthropique* (Paris). Vol. 30 (1912), pp. 362-385.

**Whitton, J. B.** Juvenile Delinquency Laws in France. *The Journal of Delinquency* (Whittier, Calif.). Vol. V, pp. 15-18 (January, 1920).

See also General References, p. 29.



## GERMANY.

**Das Jugendgericht in Frankfurt-am-Main.** Dr. Berthold Freudenthal, Herausgeber. Julius Springer, Berlin. 1912. 136 pp.

The juvenile court in Frankfurt-am-Main; an account of the work of the judge, the public prosecutor, the probation officers, and the medical adviser.

**Jugendrecht und Jugendgericht.** In Das Kultur-Parlament. Herausgegeben von Otto Neumann-Hofer. Deutsches Verlagshaus, Berlin-Charlottenburg. 1909.

Die Probleme von Amtsgerichtsrat, von Dr. Paul Köhne. pp. 1-19.—Kinder und Jugendliche als Zeugen, von Professor Dr. William Sterne. pp. 20-35.—Der Jugendgerichtsarzt, von Dr. med. W. Fürstenheim. pp. 34-43.—Die Zwangserziehung (Fürsorgeerziehung), von Dr. Klumker. pp. 44-63.—Strafvollstreckung an Jugendlichen, von Strafanstaltssekretär von Baehr. pp. 64-73.—Schutz der Kinder gegen Missbrauch der elterlichen Gewalt, von Amtsgerichtsrat, I. F. Landsberg. pp. 74-97.—Die strafrechtliche Behandlung der Jugendlichen vom theologisch-erzieherischen Standpunkt, von Konsistorialrat Dr. Gustav von Rohden. pp. 98-114.—Das Verhältnis der pädagogischen Theorie und Praxis zur Behandlung der Versehungen von Kindern und Jugendlichen, von Direktor Johannes Trüper. pp. 115-138.—Unsere legislativen Forderungen, von Justizrat Professor Dr. Franz von Liszt. pp. 139-143.

*Deutsche Strafrechtszeitung.* (Berlin.)

Vol. 1 (1914).

Rupprecht, Landgerichtsrat. Die bedingte Begnadigung Jugendlicher in Bayern. pp. 387-392.—Vor- und Ausbildung des Jugendrichters. pp. 409-506.

Vol. 7 (1920).

Eberhard, Dr. Thesen über Jugendgerichtshilfe, pp. 281-285. Lillenthal, Dr. K. von. Der Entwurf eines Jugendgerichtsgesetzes, pp. 88-93.

*Pro Juventute.* (Zürich.)

Liszt, Elsa von. Aus der Arbeit für Jugendgerichte und Jugendgerichtshilfen in Deutschland. January, 1921, pp. 38-40.

*Zeitschrift für Kinderschutz und Jugendfürsorge.* (Vienna.)

Ein Hochschulkurs für Jugendgerichtshilfe in Berlin. Vol. 10 (1918), p. 21.

*Zentralblatt für Vormundschaftswesen, Jugendgerichte und Fürsorgeerziehung* (Berlin).

Vol. 1 (1909-1910).

Bloch, Dr. Wilhelm. Erster Deutscher Jugendgerichtstag. pp. 39-42. Grabowsky [Dr. Adolph]. Die Notwendigkeit des Jugendgerichts. pp. 159-161.

Hertz, Amtsrichter Dr. W. Aus Hamburg. pp. 174-175.

Petersen, Dr. J. Gemeindevaisenrat und Jugendgericht. pp. 2-4, 16-17, 28-30.

Schleusener, Magistratsassessor F. Die Organisation der Jugendgerichtshilfe in Stettin. pp. 92-93.

Unsigned article. Das erste Jahr der Jugendgerichtshilfe in Charlottenburg. pp. 199-200.

Vol. 2 (1910-1911).

Bloch, Dr. Wilhelm. Zweiter Deutscher Jugendgerichtstag. pp. 174-178.

*Zentralblatt für Vormundschaftswesen, Jugendgerichte und Fürsorgeerziehung* (Berlin)—Continued.

Vol. 4 (1912-1913).

Becker, Amtsgerichtspräsident. Zum Dritten Deutschen Jugendgerichtstag. pp. 148-149.

Feisenberger, Staatsanwalt Dr. Die Notwendigkeit eines besonderen Jugendgerichtsgesetzes und sein Inhalt. pp. 149-151.

Hertz, Amtsrichter Dr. Organisation und Verfahren des Jugendgerichts im Deutschen Reiche. pp. 73-80.

Köhne, Amtsgerichtsrat Dr. Jugendgerichte und Jugendgerichtstage. pp. 145-148.

Westerkamp, Dr. jur. Alix. Jugendgerichtshilfe und Jugendgerichtstag. pp. 151-153.

Vol. 5 (1913-1914).

Rupprecht, Landgerichtsrat. Die Tätigkeit des Münchener Jugendgerichts und des Münchener Jugendfürsorgeverbandes. pp. 44-45.

Vol. 6 (1914-1915).

Liszt, Elsa von. Die Ausbildung des Jugendgerichtshelfers. pp. 154-157.

Vol. 9 (1917-1918).

Bloch, Dr. Wilhelm. Zehn Jahre Jugendgericht. pp. 181-185.

Vol. 14 (1922-1923).

Jugendgerichtsgesetz vom 16. Februar. 1923 mit Erläuterungen von Reichsjustizminister a. D. Prof. Dr. Gustav Radbruch, M. d. R. pp. 249-264. Gives text of juvenile court law of Feb. 16, 1923, with detailed commentary.

See also General References, p. 29.

## GREAT BRITAIN.

**Board of Education, Juvenile Organizations Committee.** Report on Juvenile Delinquency, 1920. His Majesty's Stationery Office, 1920. 41 pp.

A report based on 7,000 cases returned on a form especially devised by the committee, brought before the juvenile courts in four towns—a large seaport, a big industrial center, an iron-manufacturing municipality, and an artisan borough in the metropolitan area. Besides items concerning the child, his family, and the environment of the home, statistics are given on methods of treatment by the court, and the use of probation, fines, sureties, and commitment are discussed. The report ends with recommendations as to individual treatment, the character and training of children's magistrates, and the proper court procedure.

**Hall, Magistrate W. Clarke.** *The State and the Child.* Headley Brothers Ltd., London, W. C. 1917.

The delinquent child in England and methods of treatment. pp. 1-43.—Children's courts. pp. 43-56.—Probation. pp. 102-131.

**Home Department. Departmental Committee on the Training, Appointment, and Payment of Probation Officers, Report.** His Majesty's Stationery Office, London, 1922. 32 pp.

The report deals with probation in general, including juvenile, and discusses: The value of probation and extent to which it is used in Great Britain; by whom probation officers are appointed, and from what sources:

voluntary probation assistance; duties and qualifications of officers, method of appointment, remuneration, and superannuation; organization (central, local, London, and provincial) and cost; supervision and coordination of after-care of released prisoners; summary of conclusions and recommendations; statistics.

**Home Office [Great Britain].** Juvenile Courts, by Edward Troup. His Majesty's Stationery Office, London, 1921. 6 pp.

A discussion of the desirability of following certain methods in the treatment of juvenile offenders—such as private and informal hearings, specially qualified magistrates, probation, mental and physical examinations.

**Home Office.** Report of the Work of the Children's Branch. His Majesty's Stationery Office, London, April, 1923.

Includes: Juvenile delinquency, pp. 7-14, 95-97. Probation, pp. 56-64, 110-112. Places of detention, pp. 65-68, 113.

**Ivimy (Miss) A.** Probation work among juvenile offenders. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 2 (December, 1921), pp. 95-98.

**Atherley-Jones, L. A., and Bellott, Hugh H. L.** The Law of Children and Young Persons in Relation to Penal Offenses, including the Children Act, 1908. Butterworth and Co.; Shaw and Co., London, 1909.

Includes the provisions of the act relating to the treatment of juvenile offenders and gives a brief discussion of the principles which they embody. pp. 283-308.

**Leeson, Cecil.** The Magistrate and Child Offenders; a memorandum on juvenile-court methods, with special reference to the probation system. The Howard Association, London. (Undated.) 12 pp.

A discussion of the value of probation.

—— The Probation System. P. S. King and Son. London, 1914. 191 pp.

Introduction by J. H. Muirhead. An account of the development of probation in England and the United States; the bases upon which probation cases should be selected; the qualifications and duties of probation officers; the results of probation.

**Norris, Arthur H.** Juvenile delinquents in Great Britain. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 1 (October-November, 1921), pp. 29-47.

Gives a brief history of the procedure and methods of the courts hearing children's cases in Great Britain.

**Pepler, Douglas.** Justice and the Child. Constable and Company, Ltd., London, 1915. 163 pp.

Treats of the problem of the child offender in England and methods of treatment.

**Scottish National Council of Juvenile Organizations.** Report of an Enquiry into Juvenile Delinquency. His Majesty's Stationery Office, Edinburgh, 1923. 43 pp.

Includes a discussion of the organization, scope of jurisdiction, and methods of treatment of juvenile offenders by the Edinburgh Juvenile Court.

**Trought, Judge M. T. W.** Some ways in which the probation service may be improved. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 5 (May-June, 1922), pp. 370-381.

Makes practical suggestions as to the improvement of the probation service; outlines methods used outside of Great Britain.

*The Child*. (London.)

Vol. 7. Aitken, G. A. Juvenile offences in war time. pp. 111-117. (December, 1916.)

Vol. 8. Hall, Magistrate William Clarke. The delinquent child. pp. 316-321. (April, 1918.)

Peacock, Robert. Juvenile delinquency. pp. 265-282. (March, 1918.)

Vol. 11. Hall, Magistrate William Clarke. The aims and work of the children's courts. (England.) pp. 198-200. (April, 1921.)

Hamilton-Pearson, Edgar Alan. The problem of the delinquent child. pp. 357-361. (September, 1921.)

See also General References, p. 29.

## GREECE.

**Kotoulas, Judge.** Forfeiture of parental rights in Greece. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 7 (August-September, 1922), pp. 566-567.

A brief outline of legislation regarding cases in which parental rights are forfeited in Greece.

## ITALY.

**Commission for the Protection and Assistance of Deserted and Helpless Children.** *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 10 (Dec. 31, 1922), pp. 856-858.

A brief summary of the provisions of the decree establishing the commission.

**Conti, Ugo (University of Siena).** "An Italian Congress to ascertain what measures should be adopted to check and prevent juvenile delinquency." *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 5 (May-June, 1922), pp. 359-369.

The conference was held at Milan in January, 1922, and discussed the proposed "children's act." The report included suggestions concerning the establishment of juvenile courts, the remedial measures to be taken prior to their establishment, and the scope of the functions of the proposed children's magistrates.

**Dalmazzo, Fanny.** Physical and moral child neglect. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 7 (August-September, 1922), pp. 555-565.

Includes a discussion of a scheme for dealing with juvenile delinquency in Italy largely through voluntary special magistrates, which would be simpler and less costly than a system of juvenile courts on the American plan.

## JAPAN.

**Tsurumine, Shiro.** Measures which have been taken to assure the moral instruction of children and the organization of juvenile courts in Japan. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 7 (August-September, 1922), pp. 568-572.

Describes legal provisions for juvenile tribunals and probation in Japan.

## MEXICO.

*International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) Second Juridical National Congress of Mexico, September-October, 1922. No. 9 (Nov. 30, 1922), pp. 801-813.

Recommends the establishment in Mexico of (1) courts to deal solely with cases in which minors up to the age of 14 are concerned, outlining the scope of the powers of such courts; (2) a child supervision council in every city police district and every urban commune, which, among its other duties, shall exercise supervision over children or parents placed under such supervision by the magistrate of a children's court.

— Second Mexican Children's Congress, January 2-8, 1923—Section of infantile legislation. No. 12 (Feb. 28, 1923), pp. 155-156.

The necessity of special tribunals for delinquent minors is emphatically pointed out.

## NORWAY.

**Kirke og Undervisnings-departementet.** Om Reformer i Vergeopdragelsen. Indstilling fra Barnevernskomiteen. Johannes Bjørnstads boktrykkeri. Kristiania. 1919.

The report of a committee appointed to investigate conditions relating to child welfare in Norway, together with a proposed child-welfare law. pp. 1-281.—Supplements contain statistical data concerning neglected and delinquent children in Norway.

**Det Statistiske Centralbyraa.** Norges Officiella Statistik. VI. 99. Forsømte og Forbryderske Barn i Norge; en statistisk undersøkelse av Hartvig Nissen. I Kommission hos H. Asehøug og Co. Kristiania. 1917. 101 pp.

A statistical investigation of neglected and delinquent children in Norway.

**Wiesener, Byråchef G.** Vor Barneforsorgslovingen ved utgangen av 1921. Norges Landslag for Barne- og Ungdomsforsorg. Brosjyre nr. 2 (mai 1922). Kristiania.

Neglected and delinquent children and their care in Norway. pp. 11-16. (This pamphlet is reprinted from Tillegshefte nr. 1, 1922, of *Sociale Meddelelser*, Kristiania, pp. 44-49.)

See also General References, p. 29.

## RUSSIA.

**Goguel, Serge.** Juvenile Courts in Russia before the Revolution. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 3 (January-February, 1922), pp. 164-169.

**Niedermair, Hans, M. D.** Children's Courts in Russia. *The Survey* (New York City). Vol. 47 (Nov. 19, 1921), pp. 278-279.

Unsigned article. Ein russischer Jugendgerichts-Kongress. *Zentralblatt für Vormundtschaftswesen, Jugendgerichte und Fürsorgeerziehung* (Berlin). Vol. 5 (1913-1914), pp. 263-264.

Unsigned article. Jugendgerichtshöfe in Russland. *Zentralblatt für Vormundtschaftswesen, Jugendgerichte und Fürsorgeerziehung* (Berlin). Vol. 1 (1909-1910), p. 117.

See also General References, p. 29.

## SPAIN.

**Montero-Rios y Villegas, Avelino.** Loi des Tribunaux pour Enfants en Espagne. Imprenta Clasica Española. Madrid. 1921. 47 pp.

The text of the Spanish law relating to juvenile courts, with commentary, regulations, and an account of the administration of the law.

**Calón, E. C.** Los Tribunales para Niños. Legislation española. *Estudio* (Barcelona). Vol. 8 (May, 1920), pp. 195-218.

See also General References, p. 29.

## SWEDEN.

**Fattigvårdslagstiftningskommitténs Betänkanden.** Lagstiftningen rörande Minderåriga Förbrytare. Föslag till Lag om Ändring av 5 Kap., 3 Par. Strafflagen med flera Författningar samt till därav Föranledda Åtgärder i Avseende å Anstalter för Minderåriga Förbrytare. P. Palmquists Aktiebolag. Stockholm. 1915. 132 pp.

The report of a committee appointed to investigate the methods of care of juvenile delinquents between the ages of 15 and 18 years. Certain changes in the then existing law are recommended.

—— Barnavårdslagstiftningen. Del I. Förslag till lag om den offentliga Barnavården med flera Författningar. Del II. Statistiska Undersökningar rörande den Offentliga Barnavården i Sverige. Del III. Redogörelse för Barnavårdslagstiftning i Danmark, Norge och Finland. P. Palmquists Aktiebolag, Stockholm, 1921.

The results of a committee investigation concerning child welfare in Sweden. Part I (pp. 1-483). The organization, scope, and work of the children's commissions—the local organizations dealing with delinquent children under the age of 15 years. Suggested changes are discussed in a proposed law, which is submitted.—Part II (pp. 1-248). A statistical investigation of the work of the children's commissions in Sweden.—Part III (pp. 19-37, 49-66, 70-80). A summary of child-welfare legislation in Denmark, Norway, and Finland.

**Salomon, Harold.** Om Revision af Lagen Angående Villkorlig Straffdom. Central-tryckeriet. Stockholm. 1912. 11 pp.

A reprint from *Förhandlingar vid Kriminal-Kongress i Stockholm den 28, 29 och 30 augusti, 1911*. (The proceedings of a Swedish penal congress held in Stockholm, 1911.) Suggested reforms in the law relating to probation.

—— The Contest against Criminality; investigation and probation work in Sweden. P. A. Norstedt och Söner. Stockholm. 1913. 24 pp.

The methods and results of probation in Sweden, based on the work of The Protection Society of Stockholm (Skyddsvärnet).

—— Den Villkorliga Domen och dess Socialpolitiska Betydelse; några reflexioner med anledning av det Thyrenska förslaget. Oscar Eklund's Boktr. Stockholm. 1916. 6 pp.

A reprint from *Social Tidskrift*, häft 9, 1916. Significant aspects of probation in Sweden, and a discussion of changes proposed in this law by Dr. Thyren.

—— Den Villkorliga Domen i Pratiken. Isaac Marcus Boktr.—Aktiebolag. Stockholm. 1919. 7 pp.

A reprint from *Svensk Juristidning*, 1919. An account of the results of probation in Sweden.

Unsigned article. The Swedish Juvenile Court. *The Survey* (New York City), Vol. 18 (Aug. 31, 1907), p. 620.

See also General References, p. 29.

## SWITZERLAND.

Silbernagel-Caloyanni, Dr. Alfred. Two noteworthy child-welfare organizations at Zurich. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 2 (December, 1921), pp. 77-86.

Unsigned article. Der erste Schweizerische Jugendgerichtstag. *Zeitschrift für Kinderschutz und Jugendfürsorge* (Vienna), Vol. 4 (1912), pp. 223-224.

Unsigned article. Institutions and societies for the protection of ill-treated or morally abandoned children in Romanic Switzerland. *International Record of Child Welfare Work*. (Published by the International Association for the Promotion of Child Welfare, Brussels.) No. 11 (January 31, 1923), pp. 1-8.

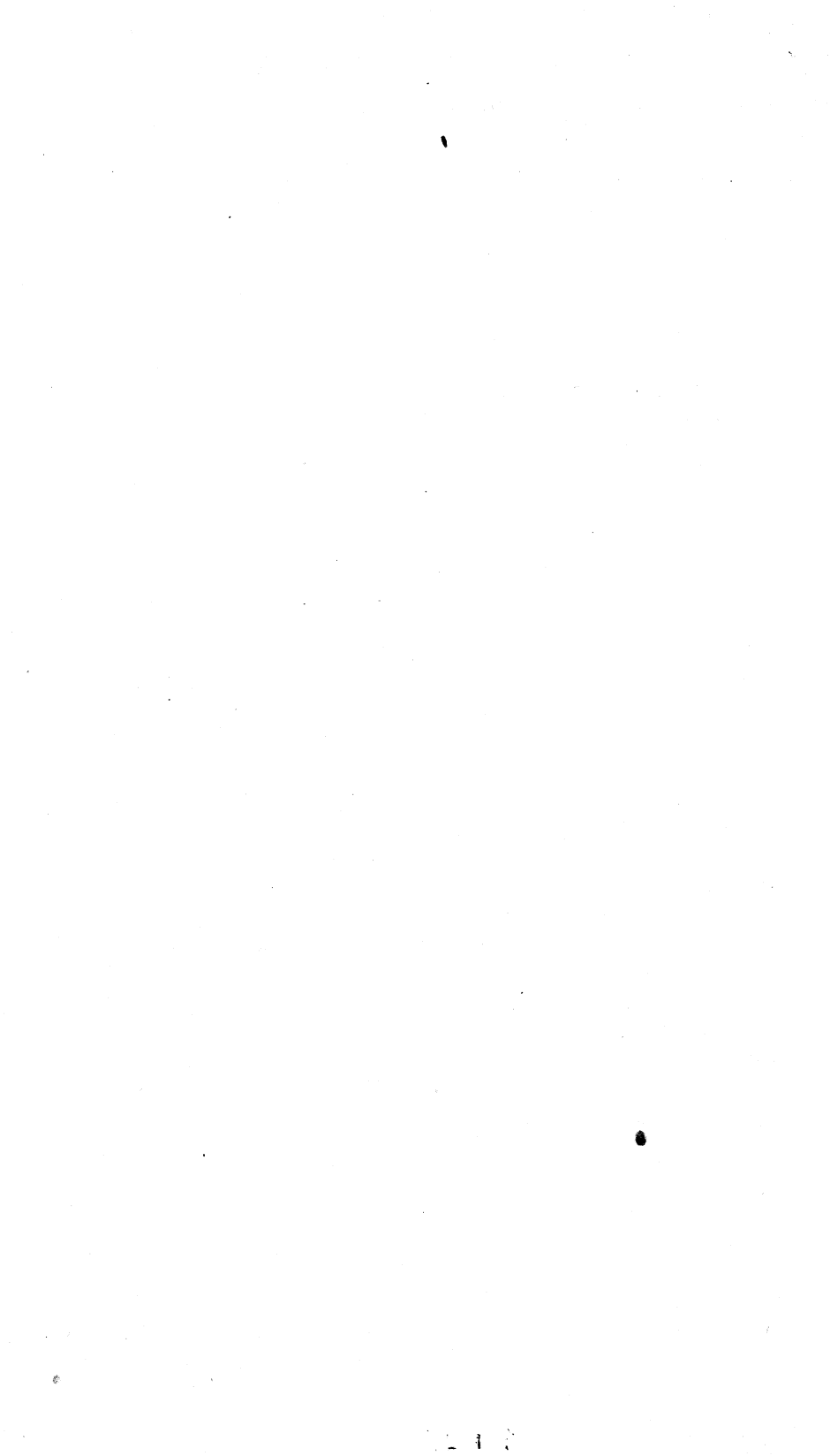
Describes the scope and methods of the various courts and bodies dealing with juvenile cases in the various cantons of Switzerland.

See also General References, p. 29.

## THE NETHERLANDS.

Hillesum, Advokat Dr. Das neue holländische Jugendgesetz. *Zentralblatt für Vormundschafswesen, Jugendgerichte und Fürsorgeerziehung*. Berlin, Vol. 14, 1923, pp. 268-269.

Describes the law of the Netherlands on the appointment of judges to try children's cases, which went into effect Nov. 1, 1922.





DEC 10 1923

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# UNEMPLOYMENT AND CHILD WELFARE

A STUDY MADE IN A MIDDLE-WESTERN AND AN  
EASTERN CITY DURING THE INDUSTRIAL  
DEPRESSION OF 1921 AND 1922

By

EMMA OCTAVIA LUNDBERG

Q

Bureau Publication No. 125



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923



U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# UNEMPLOYMENT AND CHILD WELFARE

A STUDY MADE IN A MIDDLE-WESTERN AND AN  
EASTERN CITY DURING THE INDUSTRIAL  
DEPRESSION OF 1921 AND 1922

By

EMMA OCTAVIA LUNDBERG

Bureau Publication No. 125



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1923

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT IS  
NOT POSSIBLE TO DISTRIBUTE THIS BULLETIN IN LARGE  
QUANTITIES. ADDITIONAL COPIES MAY BE PROCURED  
FROM THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.  
AT  
20 CENTS PER COPY

# CONTENTS.

	Page.
Letter of transmittal.....	ix
What the father's unemployment means to the children.....	1
The field of the study.....	5-11
Purpose.....	5
Cities included.....	6-10
Reasons for selection.....	6
Extent of unemployment.....	7
Measures taken to provide employment.....	9
Sources of information.....	10
The families of the unemployed.....	13-96
Racine, Wis.....	15-21
Duration of unemployment.....	15
Number of children affected.....	15
General facts concerning the fathers.....	16
Previous work status of fathers.....	17
Ownership of home.....	18
Housing conditions.....	19
Rents paid.....	20
Springfield, Mass.....	22-27
Duration of unemployment.....	22
Number of children affected.....	22
General facts concerning the fathers.....	23
Previous work status of fathers.....	24
Ownership of home.....	26
Housing conditions.....	26
Rents paid.....	27
Resources during unemployment.....	27-35
Sources of livelihood.....	27
Proportions of total maintenance derived from the various sources.....	30
Weekly resources at the time of inquiry.....	31
Average monthly resources during unemployment.....	32
Income during year preceding unemployment.....	32
Lowered standards of living.....	36-45
Monthly resources before and during unemployment.....	36
Comparison of resources during unemployment with estimated family budgets.....	36
Illustrations of the effect of unemployment on standards of living.....	39
Employment of the mother.....	45-56
Relation to unemployment of father.....	45
Work at home and away from home.....	46
Hours employed per week.....	46
The children of working mothers.....	47
Care of the children during the mother's absence.....	48
The mother's earnings.....	49
Typical instances.....	49

## The families of the unemployed—Continued.

	Page.
Employment of the children.....	57-60
Family income from children's earnings.....	57
Number of children employed.....	57
Ages of working children.....	57
Grades completed by children who went to work.....	58
Occupations.....	59
Wages.....	59
Savings exhausted.....	60-65
Amount of savings.....	60
Charitable aid in relation to savings.....	61
Loss of homes.....	61
Families who had used up their savings.....	61
The burden of debt.....	65-79
Extent and forms of indebtedness.....	65
Proportion of maintenance secured through credit or loans.....	66
The cost of cash loans.....	67
Families who had mortgaged the future.....	68
Credit for food supplies.....	76
Charitable aid by public or private agencies.....	79-84
Assistance given the families.....	79
Interval between loss of work and application for aid.....	80
Duration of aid.....	80
Aid to families of skilled and unskilled workers.....	81
Relation of aid received to total resources.....	82
The coincidence of illness and unemployment.....	85-90
Extent of illness.....	85
Debts for medical care.....	86
Unemployment among families given nursing service.....	86
Families handicapped by illness.....	92
Unemployment and the relief problem in Racine.....	97-108
The city commissary.....	97
Relief work and loans by factories.....	99
The city poor office.....	100
The private relief agency.....	100-102
Relief to families of unemployed men.....	101
Increase in the relief problem.....	102
Families given aid because of unemployment.....	103-105
Duration of unemployment before applying for aid.....	103
Nativity and residence of fathers.....	103
Children in families given aid.....	104
Employment of children.....	104
Illness in the families.....	104
Free milk to school children.....	105
Children brought to the day nursery.....	106
Mothers' pensions and unemployment.....	107
Families of men given emergency employment in Springfield.....	109-114
The father's previous employment.....	109-111
Interval between loss of employment and application for city work... ..	109
Weekly wages.....	110
Occupations.....	110
Social data.....	111-114
Ages of fathers.....	111
Nativity and length of residence in city.....	111

## Families of men given emergency employment in Springfield—Continued.

Social data—Continued.	Page.
Number and ages of children.....	111
Debts.....	112
Assistance by public and private agencies.....	113
Child labor in an unemployment period.....	115-132
Children eligible for work.....	115
Effect on child labor in Racine.....	115-120
Children enrolled in continuation school.....	116
Time elapsed since leaving regular school.....	117
Decline in child labor.....	117
Jobs secured by children during unemployment period.....	119
Effect on child labor in Springfield.....	120-132
Employment certificates.....	120
Child labor before and during the unemployment period.....	121
Children attending continuation school.....	123
Children securing work during the unemployment period.....	123
Why the children left school to go to work.....	126
Unemployment of children.....	126
Summaries of conditions by districts.....	133
Appendixes—	
Appendix A. Tables.....	143
Appendix B. Forms used in the study.....	169

## TABLES.

Text—	
Table I.—Sources of family maintenance during father's unemployment; based on reports of 136 families.....	31
II.—Comparison of average monthly resources and estimated budget requirement; families for whom average monthly resources were reported.....	38
Detailed—	
Table A.—Sources of maintenance during father's unemployment.....	34
B.—Mothers working away from home during father's unemploy- ment.....	54
C.—Debts incurred or unpaid because of unemployment.....	74
D.—Families receiving charitable aid during unemployment of father.....	83
E.—Families reporting illness during the period of the father's un- employment.....	88
F.—Springfield: Children 14 and 15 years of age to whom employ- ment certificates had been issued since May 1, 1921, who were unemployed February 1, 1922.....	128
G.—Springfield: Children 14 and 15 years of age to whom employ- ment certificates had been issued prior to May 1, 1921, who were unemployed February 1, 1922.....	129
Appendix—	
Table 1.—Racine: Duration of unemployment of father and last regular occupation.....	143
2.—Springfield: Duration of unemployment of father and last regu- lar occupation.....	143
3.—Racine: Country of birth of unemployed fathers, by length of residence in United States and work status.....	144
4.—Springfield: Country of birth of unemployed fathers, by length of residence in United States and work status.....	145

## Appendix—Continued.

	Page
Table 5.—Racine: Literacy and nativity of father, by duration of unemployment of father.....	146
6.—Springfield: Literacy and nativity of father, by duration of unemployment of father.....	146
7.—Racine: Citizenship of foreign-born unemployed fathers, by length of residence in the United States.....	146
8.—Springfield: Citizenship of foreign-born unemployed fathers, by length of residence in the United States.....	147
9.—Racine: Tenure of homes occupied by families of unemployed men, by duration of occupancy.....	147
10.—Springfield: Tenure of homes occupied by families of unemployed men, by duration of occupancy.....	147
11.—Racine: Monthly rental of families occupying rented houses during father's unemployment, by number of rooms in house.....	148
12.—Springfield: Monthly rental of families occupying rented houses during father's unemployment, by number of rooms in house.....	148
13.—Racine: Number of persons in households of unemployed men, by number of rooms in house.....	148
14.—Springfield: Number of persons in households of unemployed men, by number of rooms in house.....	149
15.—Racine: Monthly rental at time of study of families of unemployed men, by monthly rental previous to unemployment.....	149
16.—Springfield: Monthly rental at time of study of families of unemployed men, by monthly rental previous to unemployment.....	150
17.—Racine: Total resources of family during father's unemployment, by duration of unemployment and ownership of home..	151
18.—Springfield: Total resources of family during father's unemployment, by duration of unemployment and ownership of home..	152
19.—Sources of income during unemployment in families of unemployed men, by city.....	152
20.—Racine and Springfield: Average monthly resources of families of unemployed men, prior to unemployment and during unemployment.....	153
21.—Racine: Duration of father's unemployment, by father's total earnings from temporary work during unemployment.....	153
22.—Springfield: Duration of father's unemployment, by father's total earnings from temporary work during unemployment..	154
23.—Racine: Number of persons in families of unemployed men, by weekly income at time of study.....	154
24.—Springfield: Number of persons in families of unemployed men, by weekly income at time of study.....	155
25.—Racine and Springfield: Number of children in families in which the average monthly resources during father's unemployment were specified percentages of receipts prior to unemployment, by age of child.....	155
26.—Racine: Average monthly resources during unemployment and estimated budget requirements for families of unemployed men.....	156
27.—Springfield: Average monthly resources during unemployment and estimated budget requirements for families of unemployed men.....	156



## Appendix—Continued.

Page.

Table 28.—Racine: Interval elapsing between beginning of unemployment and receiving charitable aid, by previous work status of unemployed men.....	156
29.—Springfield: Interval elapsing between beginning of unemployment and receiving charitable aid, by previous work status of unemployed men.....	157
30.—Racine: Amount and duration of charitable aid received by families of unemployed men.....	157
31.—Springfield: Amount and duration of charitable aid received by families of unemployed men.....	158
32.—Racine: Average number of working hours per week for mothers who worked during father's unemployment, by type of work and place of employment.....	158
33.—Springfield: Average number of working hours per week for mothers who worked during father's unemployment, by type of work and place of employment.....	159
34.—Racine and Springfield: Employment of mothers during unemployment period of fathers, by place of employment.....	159
35.—Racine: School grade of children of unemployed men, by age and sex.....	160
36.—Springfield: School grade of children of unemployed men, by age and sex.....	161
37.—Racine and Springfield: Amount of weekly earnings of working children of unemployed men, by age and sex.....	162
38.—Racine: Occupation of working children during father's unemployment, and time of beginning work, by age and sex.....	162
39.—Springfield: Occupation of working children during father's unemployment, and time of beginning work, by age and sex.....	163
40.—Racine and Springfield: Time of beginning work and grade in school of working children of unemployed men, by age and sex.....	164
41.—Racine and Springfield: Length of time since leaving school of working children of unemployed men, by age and sex.....	165
42.—Springfield: Employment status February 1, 1922, of children whose first employment certificates were issued subsequent to May 1, 1921, by age and sex.....	165
43.—Springfield: Length of time since original employment certificate was issued to children who received certificates subsequent to May 1, 1921, but who were not at work February 1, 1922; by amount of time worked.....	165
44.—Springfield: Number of jobs held and total amount of time child had worked prior to February 1, 1922; children with employment certificates, unemployed February 1, 1922.....	166
45.—Springfield: Grade completed by children between 14 and 16 years of age to whom employment certificates had been issued but who were not at work February 1, 1922, by age and sex.....	166
46.—Springfield: Length of employment history of children between 14 and 16 years of age to whom employment certificates had been issued but who were not at work February 1, 1922, by amount of time worked in all positions.....	167
47.—Springfield: Period of residence in the city, of unemployed men who were given city work, by country of birth.....	167
48.—Springfield: Previous weekly wages of unemployed men, by length of unemployment before application for city work....	168

## CHARTS.

Chart I.—Ages of children in families of unemployed men.....	F
II.—Duration of unemployment.....	
III.—Percentages of families reporting various sources of maintenance during the fathers' unemployment.....	
IV.—Average monthly resources during the unemployment period compared with incomes in the preceding year.....	
V.—Employment of mothers before and during unemployment of fathers.....	
VI.—Interval between loss of work and application for aid.....	
VII.—Racine, Wis.—Employment of children.....	
VIII.—Springfield, Mass.—Employment of children.....	
IX.—Springfield, Mass.—Employment of children.....	

## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, February 28, 1923.*

SIR: There is transmitted herewith a report on Unemployment and Child Welfare which is based on a study made in two cities.

Emma O. Lundberg, director of the social service division, was in charge of the investigation and has also written the report. Assistance in conducting the field study and preparing the material for publication was given by Mary E. Milburn and Ruth Bloodgood, both of the staff of the social service division of the Children's Bureau.

The findings of this report make it clear that large groups of children suffer not temporary but permanent losses as a result of a period of industrial depression. Those who are interested in raising the standard of our citizenship through better care of the children of the country can not regard as outside the field of their concern, proposals for preventing unemployment and, failing in a program of prevention, measures which are necessary for safeguarding the children during a period of unemployment.

Respectfully submitted.

GRACE ABBOTT,  
*Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*

STATE OF VERMONT

IN SENATE,  
January 14, 1904.

REPORT  
OF THE  
COMMISSIONER OF THE LAND OFFICE,  
IN RESPONSE TO A RESOLUTION  
PASSED BY THE SENATE,  
MAY 1, 1903.  
ALBANY:  
PRINTED BY THE STATE PRINTER,  
1904.

VERMONT: 1904.

ALBANY: 1904.

# UNEMPLOYMENT AND CHILD WELFARE.

## WHAT THE FATHER'S UNEMPLOYMENT MEANS TO THE CHILDREN.

During the industrial depression of 1921 and 1922, the Children's Bureau undertook a careful study of the effect of unemployment upon local problems of child welfare. For this inquiry two cities were selected in which there was successful coordination of the public and private resources and generous expenditure for the mitigation of the hardships incident to that period. They were cities in which the industries required a large percentage of skilled workers and paid wages that permitted a higher standard of living than the workers in many industrial communities enjoy; both had been unusually prosperous during the period immediately preceding the industrial depression.

The families for whom schedules were taken were selected from the lists of the men who were registered in the local employment offices and represented, as nearly as possible, a cross section of families of unemployed men in which there were two or more children under 18 years of age. The evidence shows that their earnings prior to the period of depression had permitted the families of many of these workingmen to begin payments on homes, lay aside money for the education of their children, for possible emergencies and for old age, and that they were at the same time living comfortably. It is probably safe to say that the families of these two cities had resources both in actual savings and in credit which the workers in many communities did not have.

But a long period of unemployment—more than two-thirds of the fathers included in the study had been out of work for more than a year—had gradually exhausted the resources of the families, and recourse to public and private relief as well as great changes in the family life had become necessary.

A large proportion of the men being skilled workers, the incomes in the families had, in normal times, ranged from \$75 to more than \$200 per month. More than nine-tenths of the men for whom complete information as to income was secured had been earning between \$100 and \$175 per month. During the period of unemployment, the complete family resources in four-fifths of the families of these

same men amounted to between \$25 and \$100 a month—this, too, when the earnings of the father in such temporary work as could be secured, the wages of the mother and the children, the savings that were taken from the bank, and the loans that were made, the food and other necessities purchased on credit, and aid from relatives and public and private relief agencies were all included. Half of the families for which there was complete information averaged for their maintenance during unemployment one-half as much as while the father was working.

It is inevitable that there should be a lowering of the standards of family life when the regular income is interrupted. Frugality in food, even to the point of actual privation, a dangerous saving of fuel, economy in clothing and household supplies, reduction of the housing cost through seeking cheaper quarters or crowding the family to secure an income from lodgers, always follow the breadwinner's loss of work, even though the family does not actually have to seek outside sources of aid. When the father loses his job the mother must secure work if it is possible for her to do so. Approximately one-third of the children included in the study were in families in which the mother did undertake and was engaged in gainful employment either within or outside her home. The evidence indicates that in some of these families the money for the family's food was secured at the cost of permanent injury to the health of the mother and neglect of the children.

The investigation made by the bureau shows that unemployment not only carries with it immediate deprivation and hardship but leaves a burden of debt and discouragement for the years to come. More than two-fifths of the families included in the study had been able to maintain themselves in part during the unemployment period on their savings. In many cases these savings represented years of economizing and of planning for the future. Homes that had been purchased in whole or in part had to be sacrificed by many families.

Over four-fifths of the families were in debt for food, rent, fuel, medical attendance, and other necessities. When the father eventually secures work, those families which lived on credit at the stores, or on borrowed money, will have a burden of debt to meet.

It has been pointed out that the families included in this inquiry represented as nearly as possible a cross section of families of unemployed men in two cities in which wages had been high. It is therefore especially significant to find that over half of them had received charitable aid from public or private agencies during the father's unemployment. In almost three-fourths of the families receiving such aid, the men had been skilled workers, and 42 per cent of the families that had had savings when the father was thrown out of

work had been compelled to seek aid from public or private relief agencies after their savings were exhausted.

In addition to the other hardships, almost two-thirds of the families reported the illness or disability of one or more members during the time the father was out of work. Of especial interest in connection with child welfare are the families—almost a fourth of the whole number—in which the mother was pregnant or had been confined during the father's unemployment.

One of the outstanding conditions incident to the industrial depression, and one that on its face would appear to be entirely beneficial, was the shortage of work for children. Many children who had been employed were forced to go back to school, and others who would have tried to eke out the family income while the father was unemployed remained in school because work could not be secured. But this gave no guaranty of permanent educational gains. Savings that would have assured many of the children real educational opportunities had been spent. Many of the children in the families whose future had been burdened by debts would undoubtedly be sent to work just as soon as they could find any kind of a job. Some children during all the time when men and women were so desperately in need of employment left school and secured work.

Thus, the hardships that must be endured by a family when the father is out of work do not end when conditions improve and he again has a steady job. The savings of years have been used up in order to provide maintenance during months of enforced idleness, perhaps the home whose purchase represented the fulfillment of the family's ambitions has been sacrificed. For many months after the father secures work his wages will have to be divided between the purchase of the necessities of life and the payment of the heavy burden of debt. Many of the fathers interviewed had little hope of successfully taking up again the task of providing a home and comforts for those dependent on them.

Besides the deprivation of material needs, there is the suffering that perhaps can be understood only by those who have themselves been the victims of the dread uncertainty and fear that besets a workingman's family when the father is "laid off." The most important feature of unemployment is its effect on the family morale—the father idle about the house, unsettled, disheartened; the mother going out to work if she can secure it, and using up every bit of her strength in the double task of providing for the family's maintenance and caring for the household and the children; the children suffering from the depression and uncertainty of what the future may mean, which is even more to be dreaded than the discomforts of the immediate present.

Unemployment, then, because it means lowered family standards anxiety and dread, the loss of savings, and the mortgaging of the future, has a direct and disastrous effect upon the welfare of children. While communities are usually able to organize their resources so that children are not removed from their own homes because of poverty caused by an industrial crisis, these resources have not been sufficient to prevent very real suffering in family groups stricken with the misfortune of loss of work by the father.



## THE FIELD OF THE STUDY.

### PURPOSE.

For a large proportion of the families of this country, food and shelter and all the other things necessary to the maintenance of a fairly adequate standard of life are so contingent upon steady employment that loss of income for even a very short time may spell deprivation or actual hardship. The present study was undertaken during a period when many sections of the country were suffering from serious industrial depression,<sup>1</sup> and its purpose was to secure such concrete first-hand information as could be obtained with reference to the effect of the father's unemployment on the welfare of his children.

In certain localities unemployment had been prevalent for many months, and all grades of workers had suffered—the skilled as well as the laborers and casual workers. In some types of industries the shutdown followed closely the unusual activity of the war years. The high wages that had prevailed had been largely offset by the higher living costs and the fever for spending which usually accompanies a sudden increase in income. Many workers who probably for the first time in their lives found themselves with earnings which permitted a margin for luxuries spent them for more comfortable living, and for automobiles, pianos, phonographs, or other means of recreation that served as an outlet for the tension of the times. There were, however, many families that put the surplus income into payments on homes, bank accounts, Liberty bonds, or other forms of savings which helped them to tide over the period of unemployment. Because of the increased populations in the centers of war activity, it had been necessary for large numbers of families to undertake to buy homes in order to be assured of a place to live. Loss of work found many of these families suddenly deprived of their incomes while they were burdened by obligations assumed when earning conditions were favorable. Sometimes their acquisitions could be turned into assets, though often at considerably depreciated values.

Employment that had been plentiful for men, women, and children of working age came to be at a premium for both adults and children in the unemployment areas. There was slight possibility of making up for the loss of the father's income through the earnings of the mother or the children. The situation was thus not without con-

---

<sup>1</sup> The field work of this study was done between Dec. 5, 1921, and Feb. 28, 1922.

structive features, which must be given due weight. Women, many of them with families needing their care at home, had gone into industry during the war because of the demand for workers and the high pay offered; they now found it difficult to secure work of any kind. Boys and girls 14 years of age and over were no longer induced by unprecedented wages to leave school and go to work, and many working children were compelled to return to the educational system. Unfortunately, the deprivations resulting from the loss of employment by the father as well as by the other wage-earning members of the family often outweighed the better chances for schooling and the advantages of the mother's care in the home.

In this study an effort was made to discover the relation between the unemployment situation and the more or less definable factors of child welfare, using this term as applying not merely to conditions related to the individual child but also to his welfare as a member of a family group affected by the father's unemployment. The most definite criterion of the results of unemployment is, of course, dependency, interpreted to include not only child dependency but the need of the family for outside aid. Even dependency, however, is not so significant a phase of the problem as the less clearly defined condition of "half rations" and deprivation of accustomed comforts among families that do not apply for charitable aid. Relief agencies report tremendous drains on their resources when periods of unemployment occur in their localities, and point out how quickly many families are brought to the need of outside aid when wages are cut off. Some families manage, without assistance, to survive the period of stress by living under such conditions of lowered standards and deprivation of ordinary comforts that the children suffer very real harm.

While this report includes certain statistical facts in regard to the families that make up the unemployed groups, as a necessary general basis for consideration of the child-welfare problem, the purpose of the inquiry was to throw as much light as possible upon the extent to which the father's loss of work affected the well-being of his children. Such human facts as those related to the lowering of living standards and other special hardships coincident with a reduction in the family income, can be analyzed to only a limited extent by the statistical method; they must be dealt with in the main by the "case method," presenting the combinations of elements in the conditions of various representative families.

#### CITIES INCLUDED.

#### Reasons for selection.

The study of unemployment was made in two cities located in different parts of the country and having somewhat different indus-

trial backgrounds—Racine, Wis., and Springfield, Mass. Both cities were reported by the United States Employment Service as having serious unemployment. The first was rated as having a situation that was as severe as any in the country; in the second city the industrial depression was less general, though affecting a large number of men over a considerable period of time. These cities were chosen for the study also because their populations included a number of nationalities and represented a variety of social and economic conditions.

Racine, Wis., had in 1920 a population of over 58,000. When the study was undertaken the unemployment situation had been serious for more than a year. Springfield, Mass., had a population of almost 130,000. At the time this city was visited, unemployment had been prevalent for about 10 months.

Among the leading industries in Racine were manufacture of agricultural implements, foundries and machine shops, manufacture of automobiles and automobile parts, electrical-machine apparatus and supplies, boots and shoes, trunks, furniture, and hardware. In Springfield, the main industries were foundry and machine shops, manufacture of electrical-machine apparatus and supplies, brass and bronze products, automobile bodies and parts, stationery, sporting goods, and games and toys.

### Extent of unemployment.

*Racine.*—The estimates given in regard to the number of unemployed men indicated that the total was somewhere between 10,000 and 12,000. This apparently included a considerable number of single men, many of whom had come to the city when workers were in demand and had left when they lost their jobs. It was impossible to secure a fair estimate of the probable proportion of unemployed men in the city at the time the study was made. The following data secured from the Wisconsin Industrial Commission in regard to the numbers of workers in three Racine factories give an indication of the unemployment situation:

#### Plant No. 1:

Men employed July, 1920.....	948
Men employed October, 1921.....	199

#### Plant No. 2:

Men employed July, 1920.....	4,382
Men employed October, 1921.....	824

#### Plant No. 3:

Men employed July, 1920.....	1,291
Men employed October, 1921.....	484

The manufacturers' association had compiled a chart on which were plotted figures from the reports of 70 factories giving monthly

information to the association on the number of employees. The following figures were given:

Month and year.	Employees.
March, 1920.....	19,351—The employment peak.
April, 1921.....	9,215—52 per cent less than the peak.
June, 1921.....	7,785—60 per cent less than the peak.
August, 1921.....	6,415—67 per cent less than the peak.
October, 1921.....	6,600—66 per cent less than the peak.
December, 1921.....	6,192—68 per cent less than the peak.

The reports made by the State and city employment office on the number of registrations for jobs give something of a guide to the situation, though one not entirely reliable because of the fact that when jobs are very scarce men do not keep on applying.

*Springfield.*—No definite data on the extent of unemployment could be secured for Springfield. Excerpts from the Industrial Employment Survey Bulletin, published monthly by the Employment Service of the United States Department of Labor, give a general indication of the situation in the city. The bulletin published in April, 1921, states: "There is much unemployment in the metal and building trades, and in the textile, paper, motor-vehicle, and motor-accessories industries. A large rubber company in this vicinity normally employing 5,000, now employing 1,600, has increased working schedule from 32 to 48 hours a week." May, 1921: "A large motor-vehicle plant employing 900 is working three days a week, with prospects for improvement not promising. A large tool plant is closed indefinitely. A machine tool plant, closed for one week, has reopened and is working three days a week with a small force. A large plant engaged in manufacturing games and toys has reduced its force from 550 to 400." June, 1921: "Unemployment continues in metal and building trades." July, 1921: "Unemployment is general in all lines. The mayor of Springfield has appointed a committee to devise ways and means of relieving the situation. Textiles are working full time, but with reduced forces. Manufacturing plants are running with greatly reduced forces." August, 1921: "There is much unemployment in the metal trades and paper industry, while part time prevails in nearly all plants." November, 1921: "The general opinion of those engaged in business is that the next three months will show a slow but steady improvement. The metal trades show the largest unemployment. There is no activity in the building trades. A large firearms plant is closed, affecting 800. An automobile plant has but few working. Paper has shown some improvement. Paper-box workers advertising for night crews. Certain textiles report shortage of skilled help." December, 1921: "Metal trades are very quiet. One large industry, employing 1,000 hands, is about to lay off 200. Two plants, employing 1,250, are still closed. Paper and textiles show a steady upward trend. Railroad shops are on full time. Iron

foundries are good. Auto-tire industry very busy." January, 1922: "Ice cutting, now at its height, will give employment to hundreds of men for several weeks. Unemployment conditions improved in some industries, but the metal trades continue to be the hardest hit. Building trades are dull, with indications of improvement in the spring. One drop-forge plant is practically closed, affecting about 500 hands. One plant manufacturing small arms closed, about 270 affected. \* \* \* One textile plant which was closed has reopened. One concern, closed since last July, with a normal force of 825, has reopened with a force of 250 men. One plant manufacturing agricultural implements closed, affecting about 150."

### Measures taken to provide employment.

*Racine.*—In August, 1921, the city of Racine appropriated \$150,000 for road work, bridge building, and park work, in order to relieve the unemployment situation. The selection of the men for this work was placed in the hands of the State and city employment office. The superintendent of the employment office reported that a chance at this city work had been given to about 500 men a week, the usual policy being one week of employment and two weeks off. Sometimes a man was given work for two or three weeks in succession, with a proportionate period of unemployment following. The pay was 35 cents an hour. Park work was for 9 hours a day and street work for 8 hours. It was stated by the employment office that the men averaged about 5 days a week when employed, and their pay averaged about \$15 a week. The employment office received between 200 and 300 applications a day for work on the streets and in the parks; a large proportion of these men had been skilled factory workers.

*Springfield.*—In August, 1921, the mayor of Springfield put into operation a plan for city employment, and an appropriation of \$5,000 was made for special work by the street and park departments for the month of August. This work was continued, and the amount available for wages was increased as needed. The expenditures for the city work ran from \$4,000 to \$6,000 a month, except in December, 1921, when wages amounted to more than \$18,000. This was not due to increase in unemployment, but was to be accounted for almost entirely by the policy of giving employment to as many men as possible during the Christmas season. The distribution of this special city work was placed in the Soldiers' Relief Office, and investigations were made in all cases by the Union Relief Association, which reported to the employment office. Employment was limited to men with dependent children or with more than one adult dependent on them. The work was given for 5 hours a day, 6 days a week, usually 120 hours at a time. Then the man was laid off, and reemployment de-

pending on the number of applications on hand. Usually there was about a week's interim. The wages were \$12 for 30 hours' work. It was stated at the employment office that the average amount earned by the men was about \$10 a week, because bad weather and other conditions interfered with steady work. From August through November, 1921, there were 975 applications for work, of which 213 were disapproved because of absence of dependents living in the city, residence in the city for less than a year, or for some other reason. By February 15, 1,017 men had been given city work through the emergency employment office.

### SOURCES OF INFORMATION.

General information in regard to the unemployment in the two cities and the basic data for the various sections of the study were obtained from the following sources, effort being directed toward securing facts which bore a special relation to the welfare of the children of unemployed men.

1. State and city employment offices.
2. City officials and others concerned with special efforts to relieve the unemployment situation.
3. Manufacturers' associations and committees dealing with the problem.
4. Industrial concerns affected, and especially welfare workers of factories giving assistance to families of employees.
5. Public and private relief agencies, visiting nurse associations, and other organizations assisting families.
6. Offices issuing employment certificates, and vocational or continuation schools attended by working children.
7. Child-welfare agencies, including the juvenile court, the agency administering mothers' pensions, children's aid and protective societies, institutions for dependent children.

The inquiry differed somewhat in the two cities, in accordance with the features of the situation that appeared especially significant in each place. Aside from the general information concerning the background, the study included the following main divisions:

- A. Schedules secured through interviews with families of unemployed men.
- B. Data from records of relief agencies concerning families given assistance because of unemployment.
- C. Data from employment-office records relating to men with dependent children.
- D. Comparative data on the extent of child labor, and the effect of the unemployment situation on schooling.

By far the most important part of the inquiry was the securing of direct information from 366 families of unemployed men. The re-

sulting schedules yielded information pertaining to all phases of the study, and since the group of families visited in each city was selected as fairly representative of the "average run" of families affected by unemployment, this material is especially significant. In Racine a cross-section study was made of unemployment cases in the records of a large private relief agency. In Springfield an analysis was made of the data recorded concerning the men with dependent children who applied for emergency city work. In both cities studies were made of the child-labor situation, comparing the period of industrial depression with preceding years. Certain other special phases of the problem were considered—employment of mothers, health conditions in the families during the unemployment period, juvenile delinquency, and dependency, and the credit granted by retail stores as a substitute for charitable aid in tiding the family over the period of unemployment.

Because of the differences inherent in the industrial and social conditions in the two cities, it is necessary to present separately the analysis of the general statistical data relating to the families in each city. Under special topics, however, the data from the two cities are dealt with together. It has already been pointed out that the real meaning of the misfortune of unemployment can best be shown through the presentation of the situations in individual families are presented, and the coincidence of various factors that affect the welfare of the children in these families.





## THE FAMILIES OF THE UNEMPLOYED.

The section relating to the home conditions of unemployed men constituted the main part of the inquiry, both because of the relative importance of the data and the time expended in securing the first-hand information from the families. A total of 366 families in the two cities were visited by agents of the Children's Bureau, and information was obtained from them in accordance with a prepared schedule form.<sup>2</sup> The study was confined to families in which there were two or more children under 18 years of age living in the home. It covered facts as to the father's previous employment, the duration of his unemployment, the composition of the family, home conditions, resources of the family during the unemployment period, special handicaps under which the family was suffering, the losses suffered, debts accumulated, and the extent of retrenchment in their manner of living.

In order to be of value for the purpose intended, it was necessary that the group of families selected for scheduling should be representative of the general run of families of unemployed men, and not overweighted by families known to social agencies or from the lower occupational groups. In both cities representative lists of unemployed men with dependent children could best be secured from the records of the State and city employment offices. While in times of normal industrial conditions laborers and casual workers would probably predominate in the applications for work, the unemployment periods in both cities had been of such long duration, and all classes of workers had been affected so seriously, that the danger was rather that the lists of families might include an undue proportion of skilled workers. This was the case especially in one city, where applications by laborers were not being recorded at the time of the inquiry, because these jobs were filled by any men who happened to be in the employment office at the time of the infrequent applications for such workers. Overweighting was guarded against in so far as it was possible to do so.

For the most part, families were selected for study in which the father had been out of regular work for at least six months. In Racine only 3 per cent and in Springfield 10 per cent of the fathers of the families included in the study had lost their regular employment less than six months before the agent's visit. On the other hand, in 71 per cent of the families included in Racine and in 48 per cent of those included in Springfield the unemployment of the father had been of a year's duration or longer. As defined in the instruc-

---

<sup>2</sup> For schedule form see p. 169.

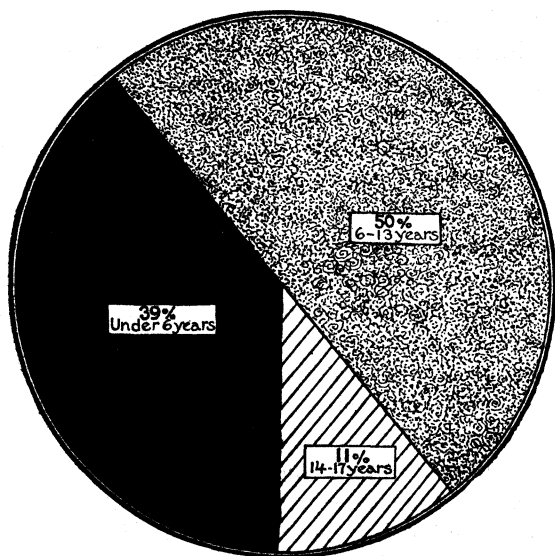
tions to the agents, the unemployment period was held to cover the time from the loss of the man's regular work; during this period he might have had temporary work at other occupations than his trade or usual employment.

The lists of families selected in this way from the employment-office records were "cleared" through the records of public and private relief organizations, children's agencies, and other sources of information that might supplement the data secured directly from the fami-

CHART I.

## AGES OF CHILDREN IN FAMILIES OF UNEMPLOYED MEN

1315 CHILDREN IN 366 FAMILIES IN TWO CITIES



lies. The person interviewed in the home was either the father or the mother; frequently both were seen. The agents were instructed not to attempt to secure any information unless the family understood the purpose of the inquiry and was interested in assisting. The instructions to the field agents contained the following paragraph:

The purpose of the inquiry is to discover what happened to the family—especially the children—as a result of the unemployment of the father. The statistical items are important as furnishing a background for analysis of the situation, but the most valuable part of the material will be information that shows what unemployment means in human terms.

RACINE, WIS.<sup>3</sup>**Duration of unemployment.**

At the time the study was undertaken there had been a serious unemployment problem in Racine for about a year and a half. In this city 231 representative families were selected for study, in accordance with the plan already outlined. For only 3 per cent of these had the lack of regular employment of the chief breadwinner covered a period of less than six months; for 26 per cent the unemployment had continued for from six months up to a year, for 67 per cent for from a year to a year and a half, and for 4 per cent for still longer periods. The details of the duration of unemployment in months are as follows:

Duration of unemployment.	Number of fathers.
Total.....	231
Less than 4 months.....	2
5 months.....	5
6 months.....	3
7 months.....	11
8 months.....	17
9 months.....	10
10 months.....	8
11 months.....	10
12 months.....	40
13 months.....	24
14 months.....	31
15 months.....	29
16 months.....	18
17 months.....	11
18 months.....	4
19 months.....	2
20 months.....	1
21 months.....	1
22 months.....	1
Not reported.....	3

**Number of children affected.**

In the 231 families there were 823 children under 18 years of age living at home. As the following list shows, almost half of these children (48 per cent) were under 7 years of age. Those from between 7 and 14 years of age comprised 42 per cent, and 10 per cent were 14 years of age or over.

Ages of children.	Number of children.
Total.....	823
Under 1 year.....	48
1 year.....	51

<sup>3</sup> See Appendix A, Tables 1, 3, 5, 7, 9, 11, 13, 15, 17, and 22.

Ages of children.	Number of children.
2 years.....	49
3 years.....	55
4 years.....	60
5 years.....	62
6 years.....	67
7 years.....	57
8 years.....	51
9 years.....	57
10 years.....	49
11 years.....	45
12 years.....	49
13 years.....	43
14 years.....	29
15 years.....	20
16 years.....	17
17 years.....	14

The age distribution of the children did not differ materially from that of the children under 18 years of age in the general population, except that there were proportionately fewer children of possible working age in the families of the unemployed, as is shown by the following figures:<sup>3a</sup>

Ages of children.	Per cent distribution in families of unemployed men.	Per cent distribution in general population.
Total.....	100	100
Under 7 years.....	48	45
7-13 years.....	42	37
14-15 years.....	6	9
16-17 years.....	4	9

Two-fifths of the 231 families had more than three children. The following list gives the number of children under 18 years of age in each family:

Number of children under 18 years.	Number of families.
Total.....	231
2.....	65
3.....	72
4.....	32
5.....	36
6.....	18
7.....	5
8.....	2
10.....	1

### General facts concerning the fathers.

Most of the fathers in this group of families were young men; 58 per cent were under 40 years of age, 49 per cent being between 30 and 40. Thirty-three per cent were from 40 to 50; 9 per cent were over

<sup>3a</sup> The smaller proportions in the upper age groups in the families studied are due in part to the limitation to families with two children under 18 years of age.

50. Nineteen fathers were from 50 to 60 years old, and 3 were 60 or over.

Among the unemployed men included in the study the proportion of foreign born was much larger than among the males 21 years of age or over in the general population of the city—the comparative percentages being 77 and 45. Of the foreign-born fathers, however, 85 per cent had been in the United States for 10 years or longer and only 1 for less than 5 years. The length of time the 179 foreign-born fathers had been in the United States is shown in the following list:

Length of residence in the United States.	Number of foreign-born fathers.
Total.....	179
Less than 5 years.....	1
5-9 years.....	25
10-14 years.....	52
15-19 years.....	60
20-24 years.....	20
25 years and over.....	20
Not reported.....	1

Four-fifths of these fathers had become citizens or had taken out their first papers.

More than half of the 231 men had been residents of the city for 10 years or more, only 6 had lived there for less than two years. The following list gives the length of residence in the city:

Length of residence in city.	Number of fathers.
Total.....	231
1 year.....	6
2-3 years.....	29
4-5 years.....	16
6-7 years.....	23
8-9 years.....	35
10 years and over.....	121
Not reported.....	1

All the native-born fathers were reported as able to read and write. Of the foreign-born, 13 per cent were reported as illiterate, but only 2 men were unable to speak English.

#### Previous work status of fathers.

Almost three-fourths of the unemployed men had previously been skilled workers in regular trades or semiskilled operatives, and one-fourth had been unskilled workers; only two men had been casual laborers. A greater proportion of the native born and those who had been in the United States for 20 years or over were rated as skilled workers than of those who had been in the country for a shorter period—that is, 84 per cent as against 67 per cent. The majority of the men had been employed in manufacturing or me-

chanical occupations. The following list gives the occupations as reported by the men:

Last regular occupation before unemployment.	Number of fathers.
Total.....	231
Laborer in factory.....	49
Molder and caster.....	34
Machinist.....	32
Assembler.....	13
Machine operative.....	11
Blacksmith, forge or hammer man.....	7
Truckers and drivers.....	7
Coremaker.....	5
Mechanic.....	5
Tool and pattern maker.....	4
Riveter.....	3
Bench worker.....	3
Welder.....	3
Blacksmith's helper.....	3
Painter, varnisher, and sander.....	3
Filer, polisher, and buffer.....	2
Miscellaneous manufacturing and mechanical.....	33
All other.....	14

The father's monthly wages in his last regular employment are shown below:

Monthly earnings.	Number of fathers.
Total.....	231
Less than \$100.....	27
\$100, less than \$125.....	58
\$125, less than \$150.....	48
\$150, less than \$175.....	29
\$175, less than \$200.....	22
\$200, less than \$225.....	14
\$225, less than \$250.....	9
\$250 and over.....	1
Not reported.....	23

It is seen that prior to the loss of employment more than a third of the families included in the inquiry had had a monthly income of \$150 or over through the earnings of the chief breadwinner. The wages of more than one-tenth of the heads of families had been \$200 or more a month.

Ninety per cent of the men stated that their loss of employment was caused by shutdown of the factory or "lay-off" of workers. In seven cases illness was given as the active cause; in three, "trouble with the boss or company," and various reasons were alleged in the remaining cases.

### Ownership of home.

Ownership of homes had been almost a necessity, in order to be assured of a place to live during the period of congestion of popula-

tion in war time. It was found that more than three-fifths of the families studied had bought their houses, only 29 per cent of these having acquired them before the war period. The true situation, however, is shown by the fact that payments had been completed on only 6 per cent of these "owned" homes, while 94 per cent were mortgaged. Two of the 9 families who owned their homes free of encumbrance had lived in them 10 years or longer, 5 for from 5 to 9 years, 1 for 4 years, and 1 for 3 years. Seven of them had presumably bought the homes before the war period. On the other hand, almost half the families whose homes were mortgaged had lived in them for less than 3 years. Of the families who were renters, nearly three-fourths had lived in the same house for less than 3 years. On the whole, the families of unemployed men represented fairly steady residents, for only 23 per cent of them had moved into their present living quarters within a year. Following are the details as to length of residence in the homes occupied at the time of the investigation:

Length of time in house.	Families owning homes.	Families renting homes.
Total.....	145	86
Less than 6 months.....	2	26
6 months.....	3	20
1 year.....	25	11
2 years.....	33	7
3 years.....	30	3
4 years.....	6	9
5-9 years.....	32	7
10 years and over.....	9	1
Time not reported.....	5	2

Seven of the families who had previously owned their homes, presumably mortgaged, had been compelled to give them up and to become renters. Four families, on the other hand, who had been renting, had had to buy homes because of the housing situation and had invested their savings in this way during the unemployment period.

### Housing conditions.

Housing conditions in this city were not such as to necessitate overcrowding under normal conditions, and at the time of the investigation 50 per cent of the families had a housing standard of one or more rooms per person; 45 per cent of the families averaged between one and two persons per room, 4 per cent averaged between two and three per room, and 1 per cent three or more persons per room. In view of the large proportion of owners as compared with renters, the crowding that was found is no doubt to be accounted for largely by the custom of letting rooms or taking in boarders to eke out the family resources. In five instances the overcrowding was particularly serious. A family with six members lived in a single room.

Another of the same size occupied only two rooms. A family of eight persons had three rooms, and each of two families with nine members lived in four-room apartments.

### Rents paid.

Nearly three-fourths of the families renting their homes paid a rental of between \$10 and \$20 a month. Four-fifths of the families giving information on the amount of rent paid lived in houses or "flats" having four or more rooms; three-fourths of these families, also, were in the \$10 to \$20 rent group.

The amounts paid at the time of the visits to these families—in December, 1921, or January, 1922—were as follows:

Amount of rent per month.	Number of families renting.
Total.....	86
Less than \$10.....	4
\$10, less than \$15.....	28
\$15, less than \$20.....	36
\$20, less than \$25.....	10
\$25, less than \$30.....	5
\$30-\$35.....	3

The difficulties which loss of steady income entailed are indicated by the fact that of the 86 families who rented their homes at the time of the study 7 had owned homes before unemployment and had had to give them up; 1 family remained in the house and was paying rent, and 6 had moved to rented quarters. Forty-eight other families moved during the unemployment period, some of them to quarters having lower rents, and others apparently because "it was cheaper to move than pay rent." Of the families who had moved, 25 were paying lower rents at the time of the study than they had paid before unemployment; 5 were paying more than they had done while the father was working; and 13 were paying approximately the same as before. Four families had moved from rented houses to homes which they had had to buy. Complete information was not obtained in regard to amount of rent paid by one family.

Of the 35 families who rented previously and had not moved, 7 were paying less than they had done while the father was working, and for 26 families the rents were approximately the same before and during the unemployment period. For 2 families information was not obtained as to the amount of rent paid.

In connection with the rentals reported above, it is important to remember that three-fifths of the families visited in Racine had bought their homes. It may well be assumed that the renters represent to a considerable extent the families of a lower economic status, and those who could not afford to make the payments necessary to "own" a home. The estimates made by one of the large manufac-

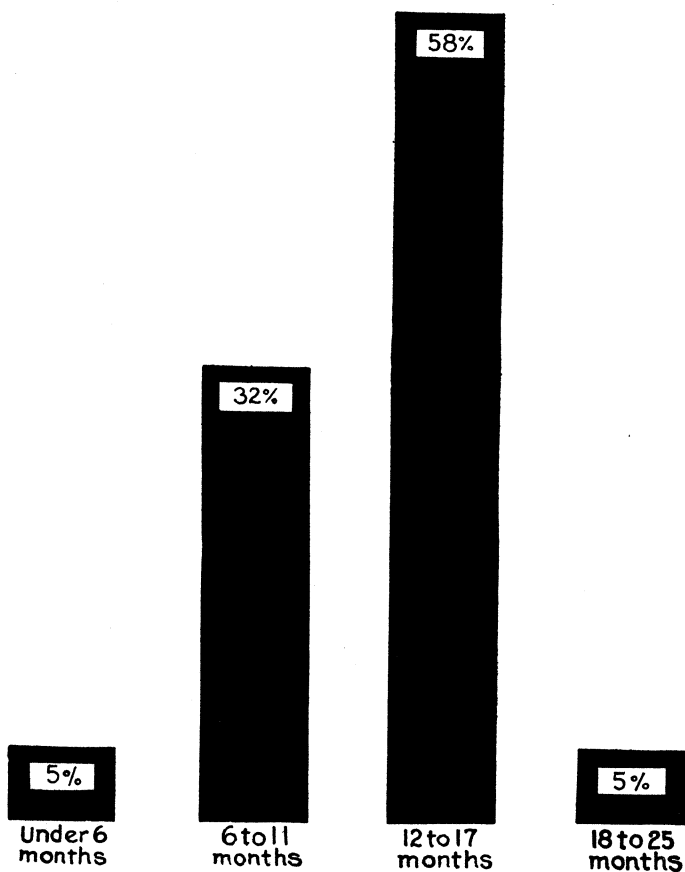


turing concerns in the city of the budgets required for workingmen's families, based on data secured from families of their employees, placed the amount of rent at \$30.<sup>4</sup>

## CHART II.

## DURATION OF UNEMPLOYMENT

356 FAMILIES IN TWO CITIES, REPORTING DURATION  
OF FATHER'S UNEMPLOYMENT



If it had been possible to ascertain the average monthly amounts paid out by the families who had bought their homes and were paying interest and principal on the mortgages, the figures on cost of housing would undoubtedly have been found to equal or exceed the amount given in the budget estimate.

<sup>4</sup> See budget estimate, p. 37.

SPRINGFIELD, MASS.<sup>5</sup>**Duration of unemployment.**

In Springfield 135 families were visited. Almost half the fathers had been out of work for a year or longer. Ten per cent had been unemployed for less than 6 months, 42 per cent for from 6 months to a year, and 48 per cent for a year or more. These percentages contrast strongly with the 3 per cent, 26 per cent, and 67 per cent unemployed for the corresponding periods in Racine. It is seen that the unemployment situation in Springfield had been much less serious than in the first city studied.

Duration of unemployment.	Number of fathers.
Total.....	135
Less than 4 months.....	9
4 months.....	2
5 months.....	2
6 months.....	10
7 months.....	15
8 months.....	9
9 months.....	12
10 months.....	6
11 months.....	2
12 months.....	6
13 months.....	16
14 months.....	14
15 months.....	8
16 months.....	4
17 months.....	5
18 months.....	1
19 months.....	3
24 months.....	2
25 months.....	2
Not reported.....	7

**Number of children affected.**

The 135 families of unemployed men included 492 children under 18 years of age living at home. Forty-three per cent of these children were under 7, and 43 per cent were from 7 through 13 years of age; 14 per cent were 14 years or over. The corresponding percentages for Racine were very nearly the same—48, 42, and 10. The numbers of children of each specific age are shown below:

Ages of children.	Number of children.
Total.....	492
Under 1 year.....	29
1 year.....	27
2 years.....	34
3 years.....	34
4 years.....	28

<sup>5</sup> See Appendix A, Tables 2, 4, 6, 8, 10, 12, 14, 16, 18, and 22.

Ages of children.	Number of children.
5 years.....	32
6 years.....	28
7 years.....	41
8 years.....	29
9 years.....	29
10 years.....	34
11 years.....	22
12 years.....	30
13 years.....	27
14 years.....	18
15 years.....	22
16 years.....	16
17 years.....	12

The following list shows that the proportion of children of working age was smaller in the group of families studied than in the general population of the city—14 per cent as against 18 per cent.

Ages of children.	Per cent distribution in families of unemployed men.	Per cent distribution in general population.
Total.....	100	100
Under 7 years.....	43	45
7-13 years.....	43	37
14-15 years.....	8	9
16-17 years.....	6	9

In 49 per cent of the 135 families there were more than three children living at home. Seventeen families had six or more children.

Number of children under 18 years.	Number of families.
Total.....	135
2.....	45
3.....	25
4.....	27
5.....	21
6.....	9
7.....	5
8.....	2
9.....	1

#### General facts concerning the fathers.

More than half the fathers whose ages were given (54 per cent) were under 40 years of age, the greater proportion being between 30 and 40 years. Of the 128 men, only 10 were between 50 and 60 years, and 1 man was over 60. Eight of these 11 older men had been out of work for periods ranging from 13 to 25 months. Of the men under 50 years of age, 40 per cent had been out of work for 13 months or longer.

In the general population of the city the foreign born represented 36 per cent of the white males 21 years of age and over. Among the

group of unemployed men, on the other hand, 54 per cent were of foreign birth. However, more than two-thirds of the 73 foreign-born men had been in the United States for 15 years or over, and only 8 had been in this country for less than 10 years.

Length of residence in the United States.	Number of foreign- born fathers.
Total.....	73
Less than 5 years.....	2
5-9 years.....	6
10-14 years.....	14
15-19 years.....	20
20-24 years.....	15
25 years and over.....	15
Not reported.....	1

Only 48 per cent of the foreign-born fathers had become naturalized, but an additional 22 per cent had secured their first papers. Thus, 30 per cent, as against 19 per cent in Racine, had taken no step toward Americanization. It is interesting to note that more than two-fifths of the men who had been in the United States for 15 years or longer had not become citizens, whereas more than three-fifths of those who had resided here a shorter time had failed to become naturalized.

The following list gives the length of residence in the city. It is seen that the greater proportion had been residents for 10 years or longer.

Length of residence in city.	Number of fathers.
Total.....	135
Less than 1 year.....	2
1 year.....	8
2 years.....	9
4-5 years.....	17
6-7 years.....	12
8-9 years.....	12
10 years and over.....	73
Not reported.....	2

As in Racine, all the native-born fathers were reported as literate. Five of the 73 foreign born were found to be illiterate, while 18 could read in their native language only. Only 1 man could not speak English. Therefore, 17 per cent of all the men in the unemployed group were handicapped by inability to read English.

#### Previous work status of fathers.

By far the largest number of men (83 per cent) had been employed in skilled occupations; 15 per cent were classed as unskilled workers, and 2 per cent as casual laborers.

A list of the last regular occupations of the 135 men follows:

Last regular occupation before unemployment.	Number of fathers.
Total.....	135
Machinist.....	33
Laborer in factory.....	9
Painter.....	7
Laborer, other.....	6
Molder and caster.....	5
Truckers and drivers.....	5
Tool and pattern maker.....	5
Assembler.....	4
Clerical worker.....	4
Machine operative.....	4
Mechanic.....	4
Filer, polisher, and buffer.....	3
Miscellaneous mechanical and manufacturing.....	39
All other.....	7

In this city there was not found the distinction that might be expected between the occupational status of the men who were born in the United States or who had been in this country for a considerable number of years and those of foreign birth and more recent arrival. The native born and those who had been in the United States for 20 years or over represented 69 per cent of the entire group; 84 per cent of them were classed as having been employed in skilled trades. Of the 31 per cent who had been in this country for less than 20 years, practically as large a proportion (81 per cent) had also been in skilled occupations. The two casual laborers were native born.

The men who had been in the city 10 years and over comprised practically the same proportion of all skilled workers as they did of the entire group of unemployed men—58 and 55 per cent, respectively. Apparently, the occupational status had no direct relation to the length of residence in the country or in the city.

More than one-fourth of the men had earned \$150 or more a month when regularly employed. The numbers in each monthly wage group were as follows:

Monthly earnings.	Number of fathers.
Total.....	135
Less than \$100.....	21
\$100, less than \$125.....	38
\$125, less than \$150.....	35
\$150, less than \$175.....	23
\$175, less than \$200.....	5
\$200, less than \$225.....	3
\$225, less than \$250.....	2
\$250 and over.....	1
Not reported.....	7

Practically all the men gave as the reason for their loss of employment the shutdown of the factory or the "laying off" of workers. One ascribed his lack of work to a strike; and in six cases illness was the cause of unemployment.

### Ownership of home.

One-fifth of the families were reported as owning their homes, but in every case there was a mortgage. In this city there had, apparently, not been the same inducements for buying homes as had existed in Racine during its period of increased production and the consequent crowding of the population. In the latter city more than three-fifths of the families had bought their homes, a considerable proportion of them before the war period, and a few owned their homes free of mortgages.

Sixteen of the twenty-eight families who "owned" mortgaged homes had lived in them for less than five years, evidently having bought them during the recent period of industrial prosperity. Of the renters, almost a third had lived for less than a year in the residence occupied at the time of the study; only 16 per cent had lived in the same place for five years or more.

Length of time in house.	Families owning homes.	Families renting homes.
Total.....	28	107
Less than 6 months.....		18
6 months, under 1 year.....	1	15
1 year.....	6	19
2 years.....	4	16
3 years.....	4	8
4 years.....	1	12
5-9 years.....	6	14
10 years and over.....	4	3
Time not reported.....	2	2

In Racine the greater proportion of the families were found at the address given at the employment office. In Springfield, on the other hand, more than one-third of the families could not be located because they had moved from the address given, and though many of them were traced to several subsequent addresses, their present whereabouts was unknown to their former neighbors. Since so large a majority of the families in this city were renters, it is probable that difficulty in meeting payments of rent was largely responsible for this shifting.

### Housing conditions.

There were proportionately more families in Springfield than in Racine living under crowded conditions. In 7 per cent of the families there were between two and three persons per room, and in 1 per cent three persons or more. The average was between one and two persons to a room, in 51 per cent of the families. In 41 per cent of the families there was one or less than one person per room.

**Rents paid.**

Four-fifths of the families visited in Springfield were renters. Information was obtained regarding the rents paid by these 107 families. The largest number paid from \$20 to \$25 a month. The number of families paying rents of the different amounts follows:

Amount of rent per month.	Number of families renting.
Total.....	107
Less than \$10.....	2
\$10, less than \$15.....	15
\$15, less than \$20.....	25
\$20, less than \$25.....	32
\$25, less than \$30.....	24
\$30, less than \$35.....	9

The majority of the families (87 per cent) lived in houses or "tenements" having four or more rooms, and two-thirds of these families paid rents of \$20 to \$35.

It has been stated that there was considerable difficulty in finding families whose addresses had been secured from the employment offices, because of the frequent moving. The proportion of families scheduled who had moved obviously does not represent the situation as fairly as was the case in Racine. However, it is of interest to note that 1 family formerly owning its home had moved after unemployment, and of 29 others who had moved, 5 were paying lower rents and 7 higher rents than when the father was working; 12 were paying approximately the same rent in the new quarters, and for 5 there was insufficient information.

Of the 77 renters who had not moved, 4 were paying less for rent at the time of the study than they had paid when the father was working; 6 were paying higher rent during the time of unemployment; 59 were paying approximately the same, and there was insufficient information concerning 8.

**RESOURCES DURING UNEMPLOYMENT.<sup>6</sup>****Sources of livelihood.**

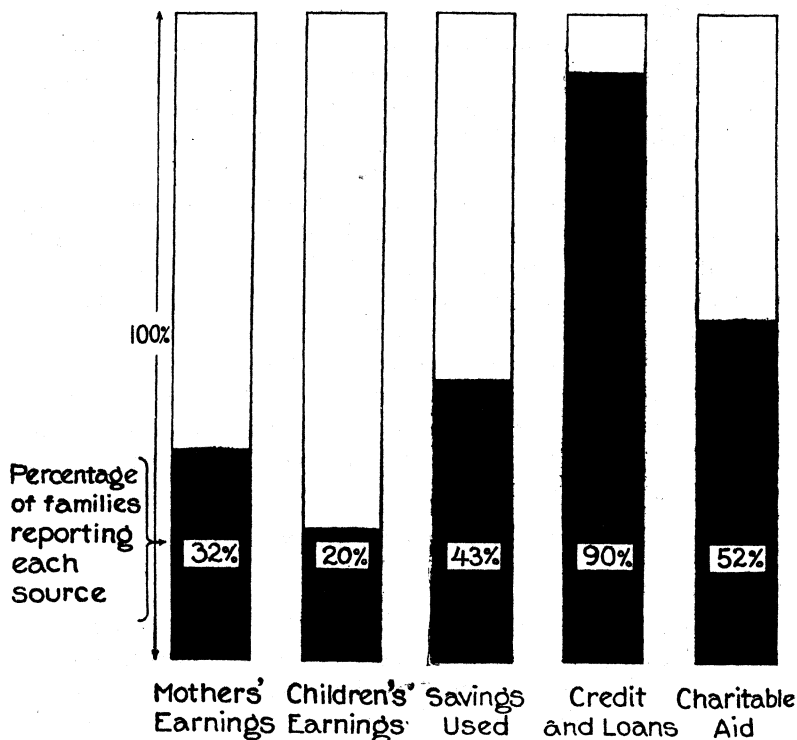
Through emergency work provided by the two cities, and through other short-time jobs secured by their own efforts or assigned to them by employment offices, all but 4 of the 366 men whose families were visited had been able to earn something toward the support of their families during the months that followed the loss of their regular occupations. The inadequacy of these earnings, by men who had previously been the sole or main support of their families, is shown by the facts presented in regard to the sources of livelihood during unemployment. Whereas only 32 of the mothers had worked prior to the unemployment period, in spite of the incentive offered by the

<sup>6</sup> See Appendix A, Tables 17-24, inclusive.

war activities, 91 who had not previously worked had secured employment after their husbands had lost their jobs. All but 7 of those previously employed had had some work during the unemployment of the fathers, making a total of 116 mothers who supplemented the family income to some extent. This number would undoubtedly

CHART III.

# PERCENTAGES OF FAMILIES REPORTING VARIOUS SOURCES OF MAINTENANCE DURING THE FATHERS' UNEMPLOYMENT 366 FAMILIES IN TWO CITIES



have been much larger had not employment been even more scarce for women than for men.

There had been a slight increase in the proportion of families that kept boarders or lodgers or rented parts of their houses during the period of unemployment. That this increase was not greater is readily accounted for by the unusual demand for housing accommodations during the preceding period, and the consequently decreased



opportunities for this type of income during the time of industrial depression. In Racine approximately 5,000 single men who had come in when labor was in demand were said to have left the city when they were thrown out of work. That the proportion of families keeping boarders and lodgers was as large as it was found to be is indicative of the unusual efforts made by them to gain means of subsistence.

Only 30 of the 191 families who were compelled to apply for charitable aid at this period had previously needed such assistance.

Loans, frequently obtained on very disadvantageous terms; debts contracted, especially for rent, food, clothing, and medical attendance; aid from relatives; and the expenditure of savings—these were other means of support for the families of the unemployed.

The following list gives the number and per cent of the 366 families reporting the various sources of livelihood during the unemployment period. Instead of specifying the many confusing combinations of sources, the items are given separately, with the percentage of families reporting each source. Many, and sometimes all, of the sources were found to have been used by a considerable number of the families.

Sources of livelihood.	Number of families reporting.	Per cent.
Total.....	366	100
Father's earnings at temporary work.....	362	99
Mother's earnings.....	116	32
Earnings of children.....	75	20
Income from boarders and lodgers.....	56	15
Income from rent.....	60	16
Savings used.....	158	43
Loans contracted.....	117	32
Debts for food.....	240	66
Other debts.....	253	69
Aid from relatives.....	38	10
Charitable aid.....	191	52
Other sources.....	15	4

Sixty-six per cent of the families had gone into debt for food. In Racine, where unemployment had been of longer duration, 81 per cent of the families reported debts for food, while in Springfield the proportion was less than half as large. Loans and other debts, exclusive of credit for food, reported by more than three-fourths of all the families, formed the largest source of maintenance, both as to aggregate amount and the number of families reporting them. The percentage of such families in Racine was 82, as compared with 66 in Springfield. The use of savings, on the other hand, was reported by almost the same proportion of the families visited in each city—42 per cent in the first city, and 45 per cent in the second. More than a tenth of the families had received aid from relatives. The families in Springfield appeared to have had the greater resources from this

type of aid—almost three times the proportion of families found in Racine—and this no doubt explains to some extent the lower proportions of loans and debts reported in Springfield. More than half the total families visited in the two cities were given assistance by public or private relief agencies. In Racine 61 per cent of the families received such aid, and in Springfield 37 per cent. This, again, is apparently to be accounted for by the longer duration and more wide-spread unemployment in the first city.

In addition to showing the variety of ways in which the families of unemployed men had been forced to secure the means of subsistence, these figures are especially significant for two other reasons. First, 191 of the 366 families (52 per cent) had become partially dependent upon charitable aid, presumably after other resources had been exhausted. Second, a large proportion of the families—278, or 76 per cent of the entire number—had been forced to mortgage the future through loans and other debts.

### **Proportions of total maintenance derived from the various sources.**

Complete reports on total resources during the unemployment period were secured from 136 families in the two cities. The information obtained shows that only 4 per cent of these families derived their entire maintenance during the unemployment period from the father's earnings at temporary jobs. The greater number of fathers were able to provide only between 15 per cent and 39 per cent of the total family income by means of temporary jobs. More than half the mothers gainfully employed contributed less than 15 per cent of the family maintenance, and in nearly two-fifths of the families the wage-earning children under 18 years contributed similar proportions. Aid from relatives was small in amount. Income from lodgers, boarders, and rent constituted in nearly three-fifths of the cases less than 15 per cent of the total resources.

Of the families receiving charitable aid, over two-thirds reported less than 15 per cent of their total living from this source; for the remainder, with one exception, charitable aid constituted from 15 to 39 per cent of the total maintenance during the unemployment period.

Approximately three-fifths of the families reporting that they had incurred debts for food and other articles had derived less than 15 per cent of their total maintenance, during the unemployment period, from this source. For a third of the families, 15 to 39 per cent of the maintenance was secured through credit and for 9 per cent of the families from 40 to 69 per cent. Money loans had supplied less than 15 per cent of the maintenance for more than a third of the families and from 15 to 39 per cent for almost half the families. In almost a fifth of the families loans accounted for 40 per cent or more of the resources during unemployment.

Savings, on the other hand, supplied larger proportions of the total resources. For almost two-fifths of the families, the use of savings furnished from 15 per cent to 39 per cent of the total living expenditures; for two-fifths, the savings spent during the unemployment period represented from 40 per cent to 69 per cent of the total maintenance.

Table I gives these figures in detail, showing the percentages of total income during unemployment derived from the various sources:

TABLE I.—*Sources of family maintenance during father's unemployment; based on reports of 136 families.*<sup>1</sup>

Sources of family maintenance during father's unemployment.	Families reporting each specified source of maintenance.					
	Total.	Per cent of total family maintenance from each specified source.				
		Less than 15 per cent.	15-39 per cent.	40-69 per cent.	70-99 per cent.	100 per cent.
Father's earnings from temporary work . . .	135	39	59	23	10	4
Mother's earnings . . . . .	31	18	8	3	2	.....
Earnings of children under 18 years . . . . .	27	10	9	6	2	.....
Income from boarders or lodgers . . . . .	19	14	4	1	.....	.....
Income from rent . . . . .	20	9	5	5	1	.....
Savings used . . . . .	65	9	<sup>2</sup> 24	<sup>3</sup> 26	6	.....
Loans contracted . . . . .	48	18	21	7	2	.....
Debts for food . . . . .	86	51	28	7	.....	.....
Other debts . . . . .	84	48	28	8	.....	.....
Aid from relatives . . . . .	5	5	.....	.....	.....	.....
Charitable aid . . . . .	66	46	19	1	.....	.....

<sup>1</sup> Only 136 families returned complete reports.

<sup>2</sup> One includes a strike benefit.

<sup>3</sup> One includes \$2,000 life insurance, \$300 allotment from Navy.

### Weekly resources at the time of inquiry.

At the time of the visit by the bureau's agents, one-third of the 347 families reporting as to earnings during the preceding week had no income from earnings of father, mother, or children. In a total of almost three-fourths of the families there were no earnings or they amounted to less than \$20 a week. The percentages of families having weekly earnings of various amounts were as follows:

Weekly earnings.	Per cent distribution of families reporting.
Total.....	100
No earnings.....	33
Less than \$5.....	7
\$5, less than \$10.....	12
\$10, less than \$15.....	10
\$15, less than \$20.....	12
\$20, less than \$25.....	10
\$25, less than \$30.....	7
\$30, less than \$35.....	5
\$35, less than \$40.....	2
\$40 and over.....	3

### Average monthly resources during unemployment.

From 188 families in the two cities it was possible to secure what appeared to be a close approximation to their average monthly resources during the entire unemployment period. The figures below show the number of families and the number of children represented in each income group.

Average monthly resources of families.	Number of families.	Number of children.
Total.....	188	673
Less than \$25.....	6	19
\$25, less than \$50.....	43	147
\$50, less than \$75.....	63	213
\$75, less than \$100.....	45	163
\$100, less than \$150.....	26	114
\$150, less than \$200.....	5	17

Of the 673 children, only 131, or 19 per cent, were in families whose average monthly resources were \$100 or more. A fourth of all the children were in families having an average of less than \$50 monthly. It should be remembered that these families averaged more than five members each and that the amounts reported as resources included everything that the family had had to live on—credit, loans, charitable aid, and savings used, as well as wages.

### Income during year preceding unemployment.

Complete information as to income during the year preceding unemployment could be ascertained for somewhat less than three-eighths of the families. Nevertheless, the following data covering 131 of the families are believed to be fairly representative of the whole group:

Income during year preceding unemployment.	Number of families reporting income previous to unemployment.
Total.....	131
\$800, less than \$1,000.....	1
\$1,000, less than \$1,200.....	7
\$1,200, less than \$1,400.....	15
\$1,400, less than \$1,600.....	17
\$1,600, less than \$1,800.....	23
\$1,800, less than \$2,000.....	14
\$2,000, less than \$2,200.....	18
\$2,200, less than \$2,400.....	13
\$2,400, less than \$2,600.....	6
\$2,600, less than \$2,800.....	13
\$2,800, less than \$3,000.....	2
\$3,000, less than \$3,200.....	2

According to these figures, two-fifths of the families had total incomes during the year preceding unemployment of \$2,000 or more.

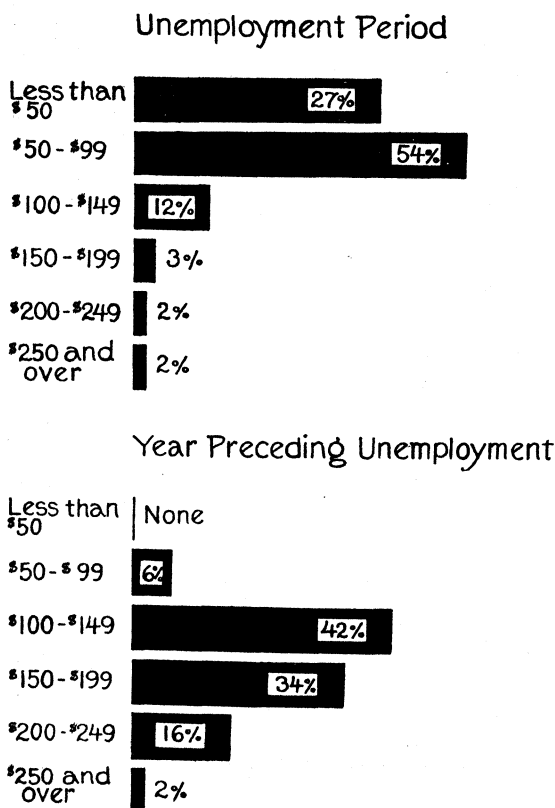
A more complete index of the previous economic status of the families may be found in the following figures relating to the father's

monthly wages in his last regular job, which were reported for 336 fathers.

Monthly wages in last regular job.	Number of fathers reporting monthly wages.	Per cent distribution.
Total.....	336	100
\$100.....	48	14
\$100, less than \$125.....	96	29
\$125, less than \$150.....	83	25
\$150, less than \$175.....	52	15
\$175, less than \$200.....	27	8
\$200, less than \$225.....	17	5
\$225, less than \$250.....	11	3
\$250 and over.....	2	1

CHART IV.

## AVERAGE MONTHLY RESOURCES DURING THE UNEMPLOYMENT PERIOD COMPARED WITH INCOMES IN THE PRECEDING YEAR



DETAILED TABLE A.—*Sources of maintenance during father's unemployment.*<sup>1</sup>

Schedule No.	Duration of unemployment (months).	Average monthly resources during unemployment.	Per cent of income derived from each source.							
			Father's earnings.	Mother's earnings.	Children's earnings.	Income from boarders and lodgers.	Savings used.	Loans.	Debts.	Charitable aid.
3	16	\$57.24	22.1				44.0		25.0	8.9
8	16	75.59	23.4	8.4		12.6	25.1	25.5	5.0	
11	8	25.73	28.3			71.7				
17	15	35.61	6.3			36.9	37.0		8.5	11.3
21	20	41.60	38.9						35.8	25.3
26	14	71.44	3.6			7.2	20.0		50.2	19.0
27	10	54.22	42.9			57.1				
29	15	97.63	7.9			13.5	47.2	27.4	3.0	1.0
39	13	63.00	4.0	.5			44.0		27.5	24.0
40	8	83.84	8.4				44.0		35.6	12.0
42	17	84.24	22.7			10.5	28.0	27.8	4.0	7.0
43	17	50.46	34.0					33.7	31.3	1.0
49	13	60.34	10.9			6.6			63.5	19.0
50	8	60.63	11.5					10.3	63.2	15.0
51	8	30.91	11.0							
52	19	268.09	4.8		1.6	31.2	84.7		4.3	
55	16	46.38	36.9			44.8	62.4		18.3	
56	14	44.11	28.6				11.1		60.3	
58	15	81.09	3.3				48.8	24.4	11.2	12.3
59	16	60.54	8.1	.5			55.7	5.1	25.5	5.1
60	10	54.19	42.3					4.9	32.7	20.1
62	15	52.00	22.1				25.0	37.8	2.1	13.0
63	21	49.35	23.8	5.7	9.5	46.0			4.2	10.8
64	13	69.56	24.0				19.0	2.6	50.4	4.0
68	13	29.92	18.6			14.9	43.0	14.5	9.0	
69	9	49.70	5.1	32.3				15.0	45.8	1.8
74	8	120.36	1.0	7.6	30.8		32.0		28.6	
75	12	96.57	2.4	24.7	2.1	7.1	63.7			
76	12	236.03	2.1		35.4				31.5	31.0
78	15	79.33	7.7	12.9		14.5			50.9	14.0
79	16	44.96	41.0						25.5	33.5
83	18	223.43	31.5		68.5					
84	14	103.28	17.7				21.0	35.5	6.8	19.0
85	8	44.44	16.3						19.2	64.5
86	18	66.85	18.3			23.0		40.9	17.8	2.0
88	6	67.80	14.5					5.2	74.3	6.0
89	16	43.88	56.3	7.0					34.7	2.0
90	8	72.84	25.1				34.0		40.9	
91	8	106.03	21.2			9.7		48.4	1.0	19.7
92	10	60.42	48.3				51.7			
94	8	62.85	23.8	17.4	10.3	8.4			27.1	13.0
96	16	88.01	25.5		72.4				0.9	1.2
102	15	94.63	7.0					70.0	8.0	15.0
103	13	90.98	44.4	.9	.5	35.9		15.3	3.0	
109	11	63.39	26.8				50.0	4.7	18.5	
110	14	42.11	15.4		50.8		33.8			
111	12	42.99	3.2						96.8	
112	15	40.06	12.1			7.1	34.0	13.3	33.5	
118	15	85.16	15.3	9.8			12.0	47.1	14.8	1.0
125	17	69.25	25.0			8.7		20.4	42.9	3.0
126	23	37.75	7.4			68.3			16.3	8.0
127	8	99.36	8.3				85.6		6.1	
136	13	115.45	31.2		51.7				16.1	1.0
137	13	97.97	38.1			1.1		30.4	30.4	
139	6	152.50	26.9					36.3	36.8	
140	13	126.05	9.3	26.5		17.4			46.8	
145	10	35.11	33.5					6.0	45.5	15.0
146	14	20.36	31.5						68.5	
151	3	593.71			3.8		96.2			
152	13	51.38	22.5						77.5	
153	14	30.29	42.1		52.6				5.3	
155	11	411.80	14.8				85.2			
157	18	55.74	41.2				58.8			
162	4	36.57	32.9						67.1	
163	5	24.87	100.0							
165	10	48.26	16.8						66.2	17.0
168	15	148.56	32.1	6.2				61.7		
175	12	101.33	9.9	21.3		10.7	47.0		11.1	
177	9	44.51	34.4						65.6	
179	13	83.48	59.3						27.7	13.0
180	13	37.48	35.5						44.5	20.0

<sup>1</sup> Includes only the 136 families for whom complete information was obtained.<sup>2</sup> Includes \$2,000 life insurance and \$300 allotment from the Navy.

## THE FAMILIES OF THE UNEMPLOYED.

35

DETAILED TABLE A.—*Sources of maintenance during father's unemployment*—Contd.

Schedule No.	Duration of unemployment (months).	Average monthly resources during unemployment.	Per cent of income derived from each source.							
			Father's earnings.	Mother's earnings.	Children's earnings.	Income from boarders and lodgers.	Savings used.	Loans.	Debts.	Charitable aid.
184	12	\$56.84	59.0				14.3		21.1	5.6
185	11	85.28	17.8		25.7		43.4	2.1	11.0	
187	15	52.14	88.4	0.9					5.6	5.1
188	13	82.67	20.6			23.0	53.0		3.4	
189	12	62.25	28.6				6.0	15.3	50.1	
190	13	123.29	30.4		30.8	17.2	20.2	1.4		
191	15	73.09	40.1				8.3	27.1	11.9	12.6
192	9	56.33	4.9				61.5	20.6	13.0	
193	12	53.84	21.4					74.6	4.0	
196	15	83.40	50.7	2.2		*		17.1	21.0	9.0
197	8	85.52	8.7	2.7	32.3	11.7	44.6			
198	16	62.51	12.3				24.6		30.7	32.4
199	10	33.10	8.1					60.8	31.1	
200	15	56.98	68.8			14.0		11.2	6.0	
201	15	136.62	41.4		47.3		9.1		2.2	
202	13	40.28	31.8				12.0	29.9	23.3	3.0
203	17	70.94	12.2	10.4		2.4		41.1	21.9	12.0
205	10	79.63	24.4					8.0	55.6	12.0
208	17	60.81	29.5				28.0	3.0	22.5	17.0
209	13	157.34	14.6			10.8	49.7	9.2	14.4	1.3
210	8	25.73	17.0				25.2	37.8	20.0	
212	16	56.77	8.5	10.5			14.0		65.3	1.7
217	12	44.59	70.4						19.6	10.0
219	16	54.11	30.4			5.1		33.5	26.0	5.0
220	19	65.46	5.0	53.1	3.7			19.0	12.0	7.2
222	13	60.88	83.4						16.6	
223	13	56.07	24.3					3.7	40.0	32.0
229	15	119.71	47.1	12.5		9.5		8.0	22.9	
231	16	109.29	70.6	17.4					11.3	0.7
236	9	67.28	13.6		18.7		64.6		3.1	
237	6	168.47	28.3	12.7	22.5	13.0		23.6		
240	10	103.28	51.6				48.4			
246	19	53.70	21.7	77.4					0.2	0.8
247	17	150.87	19.1			42.2	38.8			
249	13	86.09	56.3		25.0				9.7	9.0
252	7	41.10	22.5	23.8					53.7	
253	10	58.14	3.7	27.0				50.6	16.2	2.5
256	9	20.58	100.0							
257	2	36.95	100.0							
258	17	118.01	87.5					9.9	2.7	
259	4	84.99	79.1				16.9			4.0
273	8	46.14	39.3	45.0			15.7			
278	14	85.93	27.3				66.6			6.0
282	12	91.30	7.4		32.6		54.8		1.6	3.7
299	n. r.	n. r.	41.3				58.7			
306	10	37.63	7.7			16.4	68.5		7.4	
307	8	58.24	66.3				15.0		33.7	
309	n. r.	n. r.	33.0	50.5					1.5	
312	9	100.26	64.2		7.2	10.3			7.6	10.7
329	14	77.50	41.1				37.7			21.2
331	13	46.53	95.9							
334	14	78.28	47.3			24.8	27.9		4.0	
335	10	50.86	50.0		10.0		40.0			
336	10	101.69	20.0				80.0			
342	14	53.28	100.0							
344	8	89.20	84.7	1.3			14.0			
346	17	106.20	38.5			44.9	16.5			
347	14	111.94	9.9		48.8					
348	15	87.33	20.1		1.6	2.9	75.3		13.4	27.9
356	12	52.21	81.6				16.1			2.3
357	13	34.88	16.4	81.5						2.1
358	24	65.76	70.2				25.1		4.7	
359	15	32.15	16.7				62.5		20.8	
361	7	62.70	22.7						75.3	1.9
365	15	205.03	11.0		86.0				3.0	

\* Includes \$400 strike benefit.

**LOWERED STANDARDS OF LIVING.<sup>7</sup>****Monthly resources before and during unemployment.**

It was not practicable to undertake an intensive study of the standards of living prior to and during unemployment. The only available criteria of the effects of the unemployment are, therefore, to be found in a comparison of the resources of the families before and after the father was thrown out of work, and in data based on estimated budgets of the minimum requirements for the needs of the families. For 61 families—including 203 children—the average monthly resources during the period of unemployment were compared with the family income while the fathers were regularly employed. Half of these children (101) belonged in families whose average monthly resources during the unemployment periods were less than 50 per cent of the average monthly incomes while the fathers were working at their regular occupations. Six of the 101 children were in families in which the income had been reduced to less than 15 per cent of what it had been under normal conditions, and in the families of 13 children the total resources during unemployment were only from 15 to 25 per cent of what the income had been when the father was working. The families of almost two-fifths of the children were forced during the unemployment period to live on from 50 to 75 per cent of the amount of the income when the father had been employed.

For the younger children, especially, the deprivations implied in these findings can not help but have serious and lasting results, and the fact that 60 per cent of the children under 7 years of age were in families in which the average monthly income had been cut to less than half of that previously available is evidence of the relation of unemployment to child welfare.

**Comparison of resources during unemployment with estimated family budgets.**

Analysis of average monthly resources during unemployment as compared with estimated family budgets is even more conclusive. As a basis for budget estimates applying to the individual families included in the study, there were available some especially valuable data that had been collected by one of the large manufacturing plants of Racine. For a year and a half prior to the study of the results of unemployment, this company had obtained from families and from retail stores data which were compiled to furnish information on the monthly variation in the cost of the main items of family needs, on the basis of which had been figured a standard budget for a family of five. Such a budget had been compiled by the company

<sup>7</sup> See Appendix A, Tables 20, 25, 26, and 27.



as of December 27, 1921. Since this date was included in the time period of the inquiry made by the Children's Bureau in Racine, this budget is of especial value here in connection with the study and is given below.

MONTHLY BUDGET FOR FAMILY OF FIVE, CONSISTING OF MAN, WOMAN, GIRL 10 TO 14, BOY 6 TO 10, AND CHILD UNDER 3 YEARS.<sup>8</sup>

DECEMBER 27, 1921.

<i>Food.</i>		<i>Rent, fuel, and light.</i>	
Man.....	\$2.97	Rent.....	\$30.00
Woman.....	2.55	Coal.....	7.50
Girl 10 to 14 years.....	1.98	Wood.....	1.75
Boy 6 to 10 years.....	1.80	Fuel gas.....	2.50
Child under 3 years.....	1.69	Light.....	1.75
Per week.....	10.99		43.50
Per month (4½ weeks).....	47.62		
<i>Clothing.</i>		<i>Miscellaneous.</i>	
Man.....	6.33	Soap, towels, etc.....	5.00
Woman.....	4.43	Car fare.....	1.80
Girl 10 to 14 years.....	3.46	Insurance.....	2.00
Boy 6 to 10 years.....	2.77	Doctor and medicine.....	5.00
Child under 3 years.....	1.05		13.80
	18.04		

TOTAL ESTIMATE.

	Amount.	Per cent.
Total.....	\$122.96	100.0
Food.....	47.62	38.7
Clothing.....	18.04	14.7
Rent.....	30.00	24.4
Fuel and light.....	13.50	11.0
Miscellaneous.....	13.80	11.2

Using this budget as a basis, and estimating the amount required for each family in accordance with the number, ages, and sex of its members, a comparison is here made between the average monthly resources during unemployment and the estimated budgets for 126 Racine families and 60 families in Springfield from which sufficiently detailed information was secured to make the comparison possible. There is possibility of differences in the cost of items in the two cities, but the variations were probably not sufficient to invalidate the data as given in groups of amounts. Table II compares the monthly receipts with the budget estimates for each of the total 186 families.

<sup>8</sup> Compiled by the Case Threshing Machine Co., Racine, Wis. As no amounts were specified for food and clothing for boys and girls of certain ages, the same amount was allowed for a boy 14 years of age and over as for a man, and the same amount for a girl 14 and over as for a woman. The allowance for food and for clothing for both boys and girls from 10 to 14 years of age and from 6 to 10 years was the same. For a child from 3 to 5, \$1.75 per week was allowed for food and \$1.91 per month for clothing.

TABLE II.—*Comparison of average monthly resources and estimated budget requirement; families for whom average monthly resources were reported.*

Average monthly resources during unemployment period.	Total families.	Families with specified estimated monthly budget requirements.					
		\$75-\$99	\$100-\$124	\$125-\$149	\$150-\$174	\$175-\$199	\$200-\$224
Total families.....	186	5	87	61	29	3	1
Less than \$25.....	6	1	3	1	1	.....	.....
\$25, less than \$50.....	43	1	21	14	7	.....	.....
\$50, less than \$75.....	63	2	38	14	9	.....	.....
\$75, less than \$100.....	47	1	20	21	5	.....	.....
\$100, less than \$125.....	19	.....	1	8	6	3	1
\$125, less than \$150.....	4	.....	1	2	1	.....	.....
\$150, less than \$175.....	4	.....	3	1	.....	.....	.....

Under the scheme worked out by the industrial plant the monthly budgets for 5 families would be estimated at between \$75 and \$99; only 1 of them had resources during the unemployment period which fell within the same group. Of the 87 families whose budgets should have been between \$100 and \$124, 62 had average monthly resources of less than \$75, 3 of them having an average of less than \$25 a month. In the next group, 50 of the 61 families for whom the budgets were figured at \$125 to \$149 a month had actual resources of less than \$100, 15 of them averaging less than \$50 a month.

While there were 94 families for whom the estimated budgets exceeded \$125 a month, only 8 of the scheduled families had resources of \$125 or over. Conversely, 49 per cent of the budget estimates were for monthly averages of less than \$125, while the actual resources of 96 per cent of the families were under this amount.

The data given in Table II show 9 families of the 186 as having average monthly resources falling in the same group as the budget estimate, or in a higher group. In almost every instance this was accounted for by doctor bills or other emergency expenses not allowed for in the budget estimates, or by savings that had permitted the family to maintain something like their usual standard of living. In some families the amounts of the budgets were considerably below the income they had had when the father was working, so that even though they appeared to have had a fairly adequate amount to live on during the father's unemployment, the standard of living for the family had been greatly reduced.

One of the 9 families had used up savings amounting to \$700, and another almost \$2,000, for the family maintenance. Loans or debts for food, fuel, and other necessities, amounting in some cases to several hundred dollars, accounted for a considerable proportion of the family resources. In one family whose resources and estimated budget both fell within the \$100 to \$124 group, the man had earned \$220 a month when he was regularly employed; obviously there had

been a considerable decrease in the family's living costs, the greater share of the maintenance during the father's unemployment having been derived through borrowed money, and groceries and fuel bought on credit; a child was the only member of the family who was working, and the rent was in arrears. In another family the income through the father's earnings of \$145 a month prior to unemployment was practically the same as the average expenditures while he was out of work, but the family had lived mainly on borrowed money, being in debt to the extent of \$1,400; the mother worked regularly, earning \$15 a week, and the father had had some temporary jobs. This family's actual monthly expenditures during the unemployment averaged \$148, while the budget estimate amounted to only \$112. They were, as noted, living up to their former income mainly through loans and the contribution of the mother who had gone to work.

Income data in sufficient detail to furnish the basis for reliable percentage comparisons with the estimated budgets were secured for 90 families. The findings were as follows:

Ratio of monthly income to estimated budget.	Number of families.
Total.....	90
Less than 15 per cent.....	1
15-24 per cent.....	6
25-49 per cent.....	38
50-74 per cent.....	34
75-99 per cent.....	11

Thus, for almost half these families the average monthly resources during the unemployment period amounted to less than 50 per cent of the budget estimates based on the costs of food, clothing, rent, fuel, and other necessities.

### Illustrations of the effect of unemployment on standards of living.

The conditions that resulted from the loss of employment by the chief breadwinner may best be shown through brief summaries of conditions in a few of the many families in which the investigators found distinct indication of the lowering of the standards of family life. These accounts, secured from the families themselves, give a picture of the results of unemployment, including many factors which do not lend themselves readily to statistical interpretation. The stories are related as of the day on which the visit of the bureau's agent took place.

One family consists of American-born parents—about 30 years of age—and three children, 4, 9, and 11 years old. The father, a welder for an implement works, lost his job a year ago. Since then he has worked three weeks for the city and has had irregular employment at his former place, earning a total of \$505 during the year. An

aunt came to live with the family during the summer. For four weeks she paid \$2.50 a week and the fifth week \$4. Then she lost her job and has paid nothing since.

The family has not yet been obliged to ask for charitable aid, but the struggle to keep from it has been hard. When the father was laid off they were living in a nine-room house, for which they paid \$35 a month. Realizing they could not keep up this rent they moved into a six-room flat at \$20. After four months they felt they must retrench even more, so they moved across the street into their present flat of four rooms, at \$15 a month. It is heated by a stove and has few of the conveniences they had in the other houses. There are no sidewalks, and the street is unpaved.

The father had to drop his own \$2,000 insurance policy and also smaller policies for his wife and children. The mother has cut the food down to the minimum. She tries to give the children milk once a day now instead of every meal, as she did when the father was working. They have run up a \$200 grocery bill, owe \$29 for clothing, \$6.50 for gas and electricity, and have borrowed about \$400 from friends. In addition, they owe \$9.50 for coal to the factory where the father was formerly employed and \$160 for groceries obtained through the commissary.

A Hungarian couple who have been in the United States 18 years, and residents of the city 9 years, are about 35 years old and have four boys, whose ages are 1, 4, 9, and 13 years, and a girl of 11. The father is a molder and in ordinary times can earn about \$1,800 a year. With so large a family it was not possible to save much, but they were buying their home by monthly payments of \$20.

The father was laid off in October, 1920, and the period of unemployment had stretched to 15 months. During this time he had picked up a few short-time laboring jobs, the pay for which totaled less than \$150. The mother economized as much as possible on food, reducing the milk from 4 or 5 quarts to 3 a day, cutting out fruit and sweets, and buying meat once a week instead of once or twice daily. They ran up a \$66 grocery bill and a debt of \$6 at a tea and coffee store, and then credit was refused them. They borrowed \$60 from friends and ran behind on insurance payments and payments on the house. Finally the mother, although not a strong woman, and with much to do in caring for her own home, succeeded in finding cleaning to do, two days a week for seven weeks. Part of the time she took the children to a day nursery and the other days the 11-year-old girl cared for them at home. The mother has earned a total of \$42 during the father's unemployment. The family is now living entirely on city-commissary orders, and has a bill there of \$36.35.

The 13-year-old boy had kept the family supplied with fuel by picking coal off the railroad tracks. He finally was caught and arrested and he and his father were brought into the juvenile court. At the first hearing the father was ordered to pay \$14 for the "stolen" coal and was given two weeks in which to get the money. Only two days of the two weeks are left, and the father expects to go to jail because he has nothing with which to pay.

A man who had been earning \$18 a week working for a baking company lost his job just before Christmas, and in order to reduce expenses his family went to live in an apartment with the family of his brother. Including the child of the brother and his own little boys, aged 1 and 3 years, there are seven people living in four rooms. During the two months of his unemployment the father has had but one job—cutting ice—at which he has earned only \$9. Because of a weak heart he can not continue at this work or stand city work. The payments on insurance policies, which had been carried for the father, mother, and one child, have been dropped. No milk is being taken, even though the children are so small. The relief society has given aid to the extent of \$15.46. The mother says that the family is not in debt.

Slack work caused the unemployment of a metal-pattern worker who had been making about \$48 a week. In the 13 months since he lost his job he has earned only \$202. To get the wherewithal to live, he and his wife have sold their jewelry and a considerable amount of their furniture, including two stoves. They have also cashed in at a considerable loss the insurance they were carrying. None of the three children is strong. The eldest—a girl of 14 years—has been declared by the school physician undernourished, but the mother says that it is impossible to afford the daily quart of milk prescribed for her. The family already owes \$537.50, although part of the \$225 grocery bill will probably be offset by the father's services in repairing and keeping in order the grocer's automobile. In their prosperous days the family had evidently lived quite up to their income, since they are still in possession of an automobile, said to be too old to bring anything at a sale, which they can not now afford to run.

A family in which there are four children has managed to get along "somehow"—as the mother put it—although in over a year the father had apparently earned only \$75. Yet they have kept out of debt. Shoes and stockings are one of the things they have not been able to manage, however, and lack of them had kept two of the children out of school and brought a visit from the truant officer. In this cold month of February, the 2-year-old baby is running around barefoot.

Over 14 years ago a Syrian father and mother emigrated to America, leaving in their native land three little sons. Nine months before the visit of the agent, these boys arrived in this country. They are now 16, 17, and 18 years of age, and are crowding the disordered home, which shelters also a Syrian-born daughter, four American-born children, and the 18-year-old brother of the father. Soon after the arrival of the three boys, the father was laid off, and there was no market for the young strength and ability of these additions to the family. The father has earned only \$283 in seven months, a friend has loaned him \$400, and the overseer of the poor has supplied some clothing. The mother and the oldest son have had spells of sickness, and all the children have had the mumps. The family is in the habit of huddling in the kitchen, which is the one heated room. The 15-year-old daughter has just got her working certificate and is employed in a laundry. Her wages—\$6 a week—are the only ascertainable present income of the family. The one pleasant thing apparent in the situation is the fact that two of the young immigrants, unable to secure work, are getting their first training for future citizenship in the schoolroom instead of the factory.

A sturdy Russian-German couple in their forties, with five children—girls of 16 and 6 years, and boys 14, 13, and 10—live in a 10-room frame dwelling in a good residence neighborhood. The rooms are newly papered and comfortably furnished—victrola, china closet, library table, books, and pictures. The father is illiterate and a common laborer, but a steady worker. The mother is evidently a good manager. They are buying their house on "contract," for which the monthly payment is \$25. The mother says they have struggled for years to get ahead, but as soon as they had a little money saved it had to be used for emergencies. One child died a few years ago, and they had large doctor and funeral bills; then the mother had an operation on her leg, which has not healed properly, and she still has to spend money for doctor and medicine. However, with all their economizing they never lived as they have to now. They have meat only twice a week, instead of once or twice a day, do without fruit and desserts entirely, and get only one quart of fresh milk daily. They live on what they can get through the city commissary.

During the 14 months since the father lost his employment he has had some short-time jobs. He could not remember just how long these lasted, nor how much he has earned, but reported it was well under \$200. The mother tried taking in roomers, but they have lost their jobs, too, so can pay no rent. Debts have piled up until the mother has become almost frantic. The meat bill was \$140, and the butcher threatened to cut off further credit unless something

could be done about it. He finally told the mother that if she would do the washing for his family he would credit her \$5 a week on the bill and allow her to continue getting meat there. The washings are huge—6 to 10 large butcher aprons in addition to a good-sized family wash. It takes her at least three half-days a week to do the work, and she is scarcely strong enough to do even her own washing. She has cut the bill to \$109. Besides this, they owe \$250 in payments on the house, \$69 interest, \$64 for last year's taxes, \$10 for fuel, \$100 cash which was borrowed, a balance of \$55 on a victrola bought in 1920, and \$74 to the city commissary.

The oldest two boys have had for two years a paper route for Sunday papers only, and they earn about 50 cents a week—which is the only income the mother can count on. During the summer the boys caught fish. The family used what fish they could, and then the mother took the rest to the neighbors and exchanged it for coffee or other groceries which they could spare.

They have given up six insurance policies, the weekly premiums for which came to 90 cents. The hardest thing the family has had to do was to ask for charity. Both the private relief society and the city poor office have helped with clothing and groceries.

The parents are utterly discouraged over the future. Credit has been cut off, taxes are due again, and the mother has just 23 cents in the house—what is left of the boys' paper money. "Sometimes I sit and cry—it is so heavy."

A carpenter, the father of a family of four children whose ages range from 7 to 16 years, has not had steady work for 13 months. When he lost his job, his oldest boy had completed the eighth grade and was about to begin learning his father's trade by working with the father. After half a year out of school the boy became a clerk in a store, and is now earning \$8 a week. His wages, together with his father's earnings at temporary work, bring the family income for the 13 months up to \$913.67, as against the \$3,100 which the father alone was able to earn during the same period at steady work. In arrears for five months' rent, the family moved to a house at a higher rental, this being cheaper than to pay the back rent. The home is in great disorder, and the house old and dilapidated.

A family with three children—8, 10, and 12 years of age—had always lived comfortably, and had begun to get ahead financially when the father lost his job. He had been in this country 18 years and has taken out his first citizenship papers. He made \$30 a week as a machinist until May, 1921. Since October he has had about half-time work, earning \$18 a week. The mother has been doing laundry work two or three days a week and averages \$6 a week, but feels that she is not strong enough to do this.

The family live in a four-room frame bungalow, which they are buying. The house has neither gas nor electricity and no furnace, so that during the winter the upper rooms can not be used, as there is no way of heating them. They have no money for the overdue taxes nor for the interest on the mortgage, and the mother is afraid they will have to lose the house. She has been considering borrowing money on a high-interest plan, without consulting the father, in order to pay the taxes.

The father refused an offer of help at Christmas time from the church to which they belong—they are too proud to let it be known that they are in need. He did, however, accept a loan of \$5 from a visitor from the church and a ton of coal was accepted—the mother explained—because it was left at the door and they were entirely without fuel. The amount of milk has been reduced from 2 quarts a day to 1. Although they have been able to keep in food supplies, they do not have what they were used to, and the food the mother buys is of a very cheap grade. The two older children are undernourished. The youngest child has trouble with his eyes, and his teacher says he needs glasses. The mother is worn out from overwork and worry. When the mother and father are both at work, the children have to shift for themselves, and frequently they have no lunch. There is a little garden in which they raise their potatoes for the winter. They also have a few hens. The father killed a number of rabbits during the fall, which helped their meat supply. All their clothes have been made over as there has been no money for new ones. The mother says that she and her husband worry all the time, but on account of the children they always pretend to others that they are getting along very well.

In an American-born family, of higher type than many of the families visited, the mother is an intelligent woman of 38 years, who is seemingly trying, against great odds, to keep up her standard of living. The father is a sheet-metal worker with an earning capacity of about \$114 a month in normal times. They have 4 boys, 1, 3, 5, and 6 years of age. They have put every cent they could save into their house and have paid over \$1,000 of \$4,600—the price of the house—and in addition have painted it at a cost of \$179, put on a new roof for \$175, and had it wired for electricity, the bill for which was \$104. It is a two-story frame building with a large, grassy, well-fenced back yard. The rooms are nicely furnished, and there is a victrola.

In almost 14 months the father has had only a little irregular work. For six weeks they had a boarder who paid \$10 a week, and the mother earned \$15 making a layette for her sister. The family owes \$285 for 1920 and 1921 taxes and interest on the mortgage, \$147 for gro-



ceries, and \$12 for fuel. For the first time the family has had to accept charity. The relief association has given about \$35 in groceries and milk books. The mother would like to keep roomers, but hasn't bedding enough to keep them warm.

The mother has cut expenses to the minimum, getting 1 quart of milk a day instead of 2—the children drink tea and coffee. The family suffer most for clothing. The things they had when the father lost his job were good, but they have had hard wear and the mother has not been able to replace anything. A friend gave her two overcoats, which she ripped, washed, turned, and made over for the children. The children's shoes are in very bad condition; the soles are worn through and there are such holes in the toes that new soles can not be put on. The 5-year-old boy is absent from school because he has no shoes, and the mother estimated that the oldest child's shoes will last just about one week longer. The mother had on her only housedress and she has no aprons. The father is working this week. He will make about \$26, but \$6 will probably be deducted before he gets it for union dues. He will also have to pay out \$12 for coke that has already been delivered. That will leave only \$8. "What can you do with that?" asked the mother.

#### EMPLOYMENT OF THE MOTHER.<sup>9</sup>

##### Relation to unemployment of father.

In the families of the unemployed men, 29 per cent of the mothers in Racine and 37 per cent in Springfield were gainfully employed—almost one-third of the total number of mothers in the families visited. Of the 116 working mothers in the two cities, 26, or 22 per cent, had been engaged in some gainful employment before the father's loss of work and 90, or 78 per cent, had apparently begun work as a result of his unemployment. The proportion in the latter group was greater in Springfield than in Racine. In both cities only 7 of the mothers had worked prior to but not during the unemployment period. The employment offices reported that it was very difficult for women to secure work, either in factories or in household service. Women of moderate means, who had formerly employed help for washing, cleaning, and other domestic service, were doing their own work, and the industrial establishments offered as few opportunities for women as for men. If employment had been more readily obtainable, undoubtedly a much greater proportion of these mothers would have secured it. Under the circumstances, it is surprising that almost a third of the mothers had been able to find some work to aid in supporting their families while the fathers were out of regular employment.

<sup>9</sup> See Table I (p. 31) and Appendix A, Tables 32-34, inclusive.

**Work at home and away from home.**

Three-fourths of all the working mothers were employed away from home. The proportions working at home and away from home were practically the same for each of the two cities. The following list shows the occupations of the mothers, according to whether they worked at home or away from home:

Type of work.	Number of mothers gainfully employed.
Total.....	116
At home.....	25
Sewing.....	12
Laundry work.....	9
Keeping store.....	2
Baking bread.....	1
Weaving rag rugs.....	1
Away from home.....	91
Cleaning.....	25
Laundry work and cleaning.....	16
Factory and laundry work.....	14
Laundry work.....	14
Nursing.....	5
Hotel and restaurant work.....	4
Sewing.....	4
Working in beet field.....	2
Clerking in store.....	1
Other.....	2
Day work, type not reported.....	3
Type of work not reported.....	1

Seventy of the 90 mothers who began to work during the father's unemployment were working away from home; the proportion for those who began work before the father's unemployment was somewhat larger—21 out of 26.

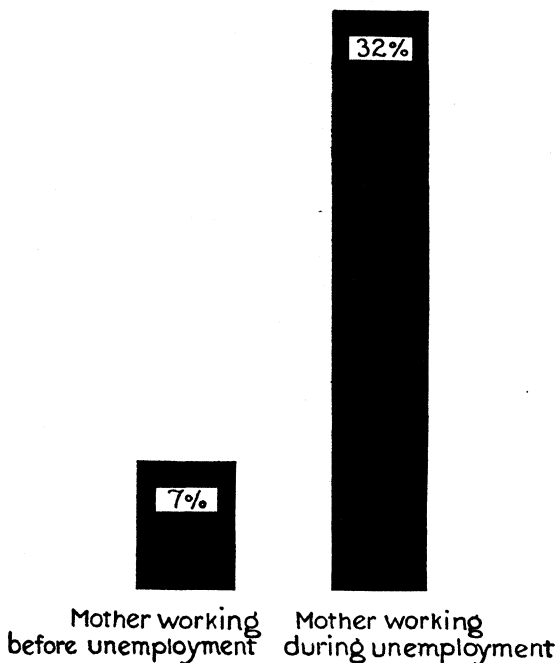
**Hours employed per week.**

The average hours of work per week for the women employed away from home are given below:

Hours of work per week.	Number of mothers reporting hours.
Total.....	66
Less than 12.....	8
12-23.....	20
24-35.....	12
36-47.....	12
48-59.....	12
60 and over.....	2

## CHART V.

# EMPLOYMENT OF MOTHERS BEFORE AND DURING UNEMPLOYMENT OF FATHERS 366 FAMILIES OF UNEMPLOYED MEN



## The children of working mothers.

In the families of the 116 working mothers there were 406 children under 18 years of age. The age distribution was as follows, according to whether the mother was working at home or away from home.

Age	Children in families of mothers working away from home.	Children in families of mothers working at home.
Total.....	<sup>10</sup> 298	108
Under 1 year.....	12	9
1-2 years.....	32	6
3-5 years.....	60	19
6-13 years.....	164	57
14-15 years.....	18	10
16-17 years.....	12	7

<sup>10</sup> Includes 20 children whose mothers were working both at home and away.

### Care of the children during the mother's absence.

The deprivation of the mother's care was particularly serious in the case of the children of preschool age. In the families of the 91 mothers working away from home, there were altogether 298 children. In 48 of these families there were children under 6 years of age—a total of 104 children. Of these 16 were going to school, leaving a total of 88 children under 6 years of age who were at home.

Twenty-five of the 91 unemployed fathers in families where the mother went out to work remained at home to look after the children all or some of the time while she was away. Only seven older children were reported as caretakers of their younger brothers or sisters part of the time, and three others looked after the little children whenever the mother was away working. The children who acted as caretakers some of the time may have done so mainly when school was not in session, as they were all of school age. One was 15, two were 14, one was 13, three were 12, one was 11, one was 10, and one was 8 years of age. The three children reported as the only caretakers of younger children were 15, 13, and 12 years of age.

The caretakers while the mothers were away working were reported as follows:

Caretaker.	Number of families with children under 6.
Total.....	48
Father.....	12
Father and older child.....	5
Relative.....	5
Neighbor.....	3
Day nursery.....	4
Older child.....	3
Father and day nursery.....	3
Paid caretaker.....	2
Father and other relative.....	2
Father and neighbor.....	2
Father and roomer.....	1
Older child and paid caretaker.....	1
Older child and day nursery.....	1
Mother.....	2
None.....	1
Not reported.....	1

For the older children as well, the absence of the mother or her gainful work at home meant deprivation of care, protection, and supervision. They went to school with insufficient breakfast, returned at noon to a hastily picked-up lunch, and could not help but suffer ill effects both physically and mentally. The father's presence in the home to some extent offset the dangers that are frequently found to accompany the absence of the mother. In fact, the attendance officers reported that truancy had decreased during the unemployment period, presumably due in a measure, at least, to the

father's opportunity to exercise a stricter discipline over the children. But this gain did not offset the injury resulting from the neglect of the housekeeping, the ill-prepared food, and the lack of care of the children's clothing, which followed when the mother was absent at work and was worn out by her excessive duties.

### The mother's earnings.

The average weekly earnings of the mothers are best shown in Detailed Table B which gives wages for the individual mothers, and also in relation to the number of hours worked. For the two cities combined it was possible to secure from only 31 of the families in which the mother was working complete information on the proportion of the total family resources represented by her earnings. The figures are as follows:

Per cent of total family resources represented by mothers' earnings.	Number of families reporting.
Total.....	31
Less than 15.....	18
15-39.....	8
40-69.....	3
70-82.....	2

In the cases where the mother contributed a considerable part of the family maintenance, the hardships endured by the family must have been especially great. The mother, absent from the home or busy with paid work for a large proportion of each day, could not give the necessary care to her children, and the total resources were low.

### Typical instances.

The effect of the employment of the mother is shown more clearly in the presentation of individual cases than would be possible in any general analysis.

One father has had no work at all for 10 months. During the whole of that period the mother has gone out every day to do housework, and by this means earned enough to keep the family going. Since the father often went out to look for work, the two boys of 7 and 11 years had to prepare their own lunch at noon and were left without any supervision after school hours. Finally the mother broke down from the double work of earning the living and caring for her home and family, a burden which was made all the harder to carry because of worry over their unfortunate circumstances. When the father obtained employment from the city the mother gave up her outside work but began doing fine laundry work at home. These parents have a fine, independent spirit and do not wish to apply for charity. They have accepted two loads of wood from the city, because the father was working in the parks where the wood was being cut.

A family with two children aged 4 and 12 years had lived very comfortably while the father was earning between \$37 and \$40 a week. They were buying a home, the mother helping by taking lodgers or boarders. But with the closing of the plant which employed the father and the lodgers the sources of income were cut off. During the eight and a half months since the shutdown the father's earnings by casual employment have amounted to about \$600, and meeting the payments on the house is a very difficult matter. The mother now does "work by the day" for the first time in her life, and an aunt cares for the children while she is away from home. The family can afford no recreation of any kind, and they are badly in need of clothes.

In July, 1921, the father of a family in which there are two children, now 7 and 9 years of age, was laid off, and the mother—a registered nurse—went to work in a sanitarium. After three weeks she had to give up this employment, because a full day's work of 12 hours was demanded of her, and she could not give so much time without neglecting her home and children. The father was caring for the house and the children, but he became ill, and the mother took up crocheting babies' booties at \$1.10 per dozen pairs, and could earn on an average only \$5.50 a month. She was not very strong and had been ill in bed the previous summer, though she kept on crocheting all the time. The total earnings of the father and mother during the seven months of unemployment had been only \$129.50. The father is now employed, but is earning only \$15 at unfamiliar work as against the \$25 which he earned at his regular employment.

In one family visited there are five children, a baby born less than a month ago, and four children 1, 3, 7, and 14 years of age. The father, 41 years old, and the mother, 35, are both native born. The father earned \$28 a week as janitor-guard in a foundry, but since he lost that employment in October, 1920, he has had only a little city work and a few odd jobs, amounting to about four weeks' work in all, for which he received an average of \$10 a week. When the father lost his job the mother got housework in a private family for six days a week and also worked half a day on Sunday cleaning a bakery. She continued to do this, earning \$12 a week and her meals, until a week before the baby was born. She was cared for during confinement by a visiting nurse. The 14-year-old girl had been kept out of school to care for the younger children while the mother was at work and the father was hunting employment. She is now at home working on a "home permit" from the school attendance office. She is in the eighth grade, but she has lost about half the present term. The father says he is sorry she has been kept out of school, as he might as well have stayed at home himself—he had wasted his time looking for work.

The family lives in a dilapidated four-room frame cottage located behind other buildings, so that the only entrance is through an alley or between the houses which face on the street. They have lived here three years, and the rent has been raised from \$10 to \$12 a month since the father's unemployment. The floors are bare and the rooms are very scantily furnished, but everything is neat and clean. The kitchen stove furnishes the only heat. In order to save electric light bills kerosene lamps are used except when one of the family "gets excited over reading" and the lamplight is too poor to see by.

A relief society gave the family grocery orders during the time the mother was unable to work before and after her confinement. The father now has temporary city work; if he is able to keep this or to get other steady work the mother will stay at home. The total amount of charitable aid the family has received during the father's unemployment amounts to \$75. They were compelled to give up the life insurance held by the mother, father, and children, the loss amounting to about \$20 in all. The mother has a horror of debts and will not allow anything to be bought on credit, and they have contracted no debts except the doctor's bill for the mother's recent confinement. If they have no money they have no food. They have been getting no milk and only cheap food—and little of that.

The father has had blood poisoning since he lost his job, the 3-year-old girl fell and cut her face and eye while the mother was at work, and the year-old child has had a crushed hand. The family has had fewer comforts than ever before and nothing but the absolute essentials. Practically all their clothes have been made over from articles given the mother by the people for whom she worked.

One mother expressed surprise at the very little that her family of four could get along on. Except in the very coldest weather the fire in the cook stove has to suffice to heat all their six rooms. This means that the family practically lives in the kitchen. The piano and then the parlor furniture were sold for half of what they cost. Insurance payments were stopped, and this meant the loss of most of what had been paid in. In spite of these sacrifices and the \$137.50 earned by the mother, who had done her best to help, the family owes \$167. Since the children are 1 and 3 years of age, and the elder has some form of seizures, the father has to give up his hunt for employment in order to care for them when the mother goes out working.

During the year preceding unemployment one father estimated that his income was \$2,600, and when he was laid off he was getting \$60 per week. The family was in very comfortable circumstances and would have saved a considerable amount had it not been for the fact that the older of the two children, a girl 2 years of age, had been

under the care of an orthopedic specialist since birth, on account of a weak spine. The father says that no expense was spared, and they were always hoping that something could be done for the child. In this case a comfortable income was cut off very suddenly, and the father has had only four months' work during the past year. The mother is now doing work by the day five days a week. It is evident that this hurts the father, because she is not accustomed to hard work and has never gone out before. The family has found it cheaper to send the crippled child to a hospital, where the charges are made as low as possible (\$7 a week) and where the bill can run as long as necessary. Feeding the child and paying the specialist cost a great deal more than \$7 a week. The baby is taken to a day nursery every morning that the mother goes out to work. The father feels that the home has been completely broken up since his unemployment. The little savings have long since been eaten up, and the family is deep in debt. Even if the father gets work soon he will not be out of debt for years.

Just when a sheet-metal worker—a man of 56 years—was put on half-time, his landlord announced a substantial increase in his rent. To meet this difficulty, he bought the house—a three-flat tenement—investing in the equity \$1,000 which constituted all his savings. Since that time the two rented flats have brought in steadily \$64 a month. Of this, \$40 has had to be used for the interest on the mortgage, leaving only \$24 a month for taxes, water rent, repairs, and the payments to the real estate agent on the remaining \$1,500 purchase price of the house. The arrangement means, at any rate, that the family is not paying rent.

The father's total earnings in the 17 months since he was first put on half-time have been only \$492, and for 4 months he has been entirely out of employment. The city work he found too hard. The three children are going to school; the eldest—a girl of 17—is in high school. The mother has attempted to help the financial situation by making bungalow aprons, but finds that the most she can earn in the time left after she has done her regular housework and the family sewing is 72 cents a week.

If the father's unemployment continues much longer, it is difficult to see how this family, whose home though plain is exceptionally neat, can fail to lose their equity in the house, which represents the savings of a lifetime; and the ambitions of the parents for the better education of their children can not be fulfilled.

About two years ago a Polish father invested his savings in the purchase of a store. He did not make a success of the enterprise, and most of the money was lost. He had a few months of employment as a sheet-metal worker and then lost his job, and he has been



out of steady work for over a year and a half, getting a little work during this period at repairing and plumbing. To keep the family from actual want, the mother has done work by the day, earning an average of \$6.50 a week for something over a year. While she is at work, the little 3-year-old girl stays at a friend's house, and before the mother leaves home in the morning she sets out the lunch for the three children 6, 12, and 13 years of age, who go to school.

Their troubles have been complicated by ill health, for the mother is worn out and sick, though she will not call in a doctor because she says they can not afford one. Within the year the eldest child has had an operation for glandular trouble and also an attack of grippe; the second child has been anemic ever since she had scarlet fever nine years ago. The relief society helped in arranging for the operation, and has given aid during the two winters to the extent of \$339.22. The father is now working temporarily for the city at \$12 a week. The family seems to be doing its best to keep up self-respect, and the home, though plain and somewhat scantily furnished, is clean, well-lighted, and well-ventilated, and is in a good neighborhood.

One father lost his job at Thanksgiving time in 1920. During the 13 months since then, he has worked a few weeks for the city and perhaps five weeks altogether at his old job at a factory, earning a total of \$204. This has been entirely inadequate for the maintenance of the family of seven. Since there were no savings to fall back on, the family had no resource except to go into debt. They now owe a total of \$345.32, as follows:

Grocer.....	\$32.00
Butcher.....	23.00
Baker.....	50.00
Coal dealer.....(last winter) ..	11.75
Coal from city.....(this year) ..	31.87
Landlord.....	182.00
Commissary.....	14.70

The mother, in order to help, goes out ironing one day a week, making 75 cents or \$1. On the day of the visit made by the bureau's agent the 14-year-old girl was staying away from school doing the family ironing and waiting on the father, who was not feeling well. She formerly earned a little money caring for children after school hours, but soon after the beginning of the industrial depression she lost her job because the neighbors could not afford to pay for that sort of service.

The 16-year-old daughter left school two years ago, when in the seventh grade, but did not try to find work until last fall. The school authorities insisted that she attend the continuation school, so she went to Chicago to work. The family does not seem to know much about what she is doing, except that she is in a factory. So far, she has sent no money home.

DETAILED TABLE B.—*Mothers working away from home during father's unemployment.*

Sched- ule num- ber.	Duration of father's unem- ploy- ment (months).	Mothers working before and during father's unem- ploy- ment.	Mothers begin- ning work during father's unem- ploy- ment.	Type of work.	Average time per week.	Average earnings per week when working.	Num- ber of child- ren.	Age of each child (years).	Caretaker of children under school age during mother's absence.
8	16		✓	Cleaning and washing.	n. r. 2	\$3.00	2	9, 14	Father.
15	15		✓	Sewing in shirt factory.	44 hrs. 2	8.00	2	3, 10	Father or child 14 years.
22	13		✓	Ironing in laundry.	1 da. 4	.87	4	5, 10, 12, 14	Grandmother.
23	12		✓	Sewing in tailor shop.	n. r. 2	10.00	2	6, 9	Father.
36	16		✓	Laundry work.	irreg. 3	3.75	3	2, 4, 6	Mother takes child with her.
39	17	✓	✓	Garment factory.	n. r. 3	2.50	3	1, 3, 5	Father.
53	13		✓	Washing and cleaning (keeping lodgers) 3	2 das. 10	7.50	10	1, 2, 4, 8, 10, 12, 13, 15, 16	Father.
54	13		✓	Stringing beans for cannery.	42 hrs. 2		2	7	Father.
59	16		✓	Scrubbing store and house cleaning.	16 hrs. 2	5.00	2	13, 16	Father.
63	21		✓	Cover in cannery.	48 hrs. 2	15.00	2	6, 7	Father.
65	15		✓	Chambermaid in hotel.	48 hrs. 2	8.00	2	1, 2, 4, 6, 8, 10, 12, 14	Father.
66	15		✓	Washing for butcher.	8 hrs. 3	3.50	3	8, 10, 11	Father, or child 8 years.
69	9		✓	Washing.	2 das. 4	1.50	4	4, 5, 7, 8	Father.
70	14		✓	do.	1 or 2 das. 3		3	5, 14, 17	Father.
74	8		✓	Nursing and cooking (sewing at home) 2	irreg. 3	n. r.	3	7, 9, 13	Father, or day nursery.
75	12		✓	Trimming leather in tannery.	44 hrs. 3	16.80	3	1, 2, 5, 7, 10	Father.
76	15		✓	Laundry work, cleaning (sewing at home) 3	irreg. 5	4.00	5	7, 12	Father.
78	16		✓	Ironing in laundry.	50 hrs. 2	8.00	2	6, 12, 13, 13	Father.
81	15		✓	Laundry work.	8 hrs. 4	2.50	4	7, 9, 11	Father.
89	16		✓	Laundry work and cleaning.	12 hrs. 3	9.00	3	2, 6, 9	Father.
94	8	✓	✓	Machine operator in shirt factory.	44 hrs. 3	n. r.	3	9, 11	Elderly woman.
95	10		✓	House cleaning and sewing.	n. r. 2	12.00	2	3, 6	Father or grandmother.
100	14		✓	Sewing.	n. r. 3	15.00	3	1, 3, 5	Day nursery.
103	13		✓	Cleaning and staining furniture.	44 hrs. 3	n. r.	3	1, 4, 5	None.
107	14		✓	Collar maker in tailor shop.	48 hrs. 3	4.80	3	1, 13	Father.
118	15		✓	Laundry work and cleaning.	irreg. 2	14.00	2	12, 15	Grandmother or father.
119	16		✓	Washing and cleaning.	16 hrs. 2	6.00	2	6, 16	Father or neighbor's child.
126	9	✓	✓	do.	1 da. 3	58	3	1, 2, 5	
132	9		✓	Cleaning and washing in hotel.	n. r. 4	14.00	4	12, 15	
140	13		✓	Washing and caring for a child.	n. r. 4	10.00	4	3, 8, 12, 17	
141	15		✓	Cleaning in restaurant (2 weeks on, 1 week off).	n. r. 2	6.00	2	12, 13	
146	14		✓	Washing.	2 das. 2	8.10	2	2, 4	
149	14		✓	Cleaning.	2 hrs. 2	50	2	1, 2, 5	
150	14		✓	do.	27 hrs. 3	17.50	3	5, 9	
154	15		✓	Packing in rubber shop.	54 hrs. 2		2		
168	15		✓				2		

49090°—23—5

DETAILED TABLE B.—*Mothers working away from home during father's unemployment—Continued.*

Sched- ule num- ber.	Duration of father's unem- ploy- ment (months).	Mothers working before and during father's unem- ploy- ment.	Mothers begin- ning work during father's unem- ploy- ment.	Type of work.	Average time per week.	Average earnings per week when working.	Num- ber of chil- dren.	Age of each child (years).	Caretaker of children under school age during mother's absence.
340	15		✓	Washing and cleaning.	16 hrs.	\$4.50	2	11, 16.	
344	8		✓	Laundry work.	16 hrs.	4.80	2	5, 7.	
345	15		✓	Laundry work and cleaning.	40 hrs.	13.50	4	6, 9, 15, 16.	
352	15	✓		Machine operator in factory.	37 hrs.	5.00	6	8, 10, 11, 13, 15, 16.	
357	13		✓	Pantry girl in hotel.	7 das.	9.00	5	2, 4, 9, 10, 11.	
362	10		✓	Nursing.	7 das.	10.00	5	1, 4, 8, 10, 12.	Older child 10 years or paid caretaker.
363	n. r.		✓	Laundry work and cleaning.	24 hrs.	7.80	5	3, 7, 9, 11.	Father or older child 12 years.
366	25	✓		do.	20 hrs.	5.00	2	1, 7.	Aunt.
367	2	✓		do.	24 hrs.	7.20	2	4, 10.	Paid caretaker. Father or day nursery.

\* Mother working both at home and away from home.

4 Working.

EMPLOYMENT OF THE CHILDREN.<sup>11</sup>**Family income from children's earnings.**

In the discussion of the family's resources during the unemployment period it was pointed out that in 75 families children under 18 years of age had aided in the support of the family while the father was out of work. The amount earned by the children was reported for 46 of these families; in 20 families they earned less than \$100; in 11 families they earned from \$100 to \$199; in 4 from \$200 to \$299; in 3 from \$300 to \$399; in 1, \$455; in 1, \$550; in 3 from \$600 to \$699; and in 3 from \$700 to \$799. In 3 of the families in which the children's earnings amounted to \$600 or more, 2 children were at work.

Attention has been called to the fact that the children's earnings were a source of maintenance during the father's unemployment in 27 of the 136 families for which complete reports were obtained. In 10 of these 27 families less than 15 per cent of the maintenance came from the children's earnings. In 9 families the children's earnings made up from 15 to 39 per cent, in 6 from 40 to 69 per cent, and in 2 families 72 and 86 per cent, respectively, of the entire amount used by the family.

**Number of children employed.**

Of the 148 children 14 to 17 years of age, inclusive, in the 366 families included in the study, 45 had been regularly employed at some time during the father's unemployment. At the time of the agent's visit, however, only 32 children were working. In addition to the 45 children—in 41 families—who were regularly employed, there were 42 children—in 34 families—who made some contribution toward the family's support by working after school, on Saturday, or during vacations.

Twenty-two of the 45 children who had worked on regular permits during the father's unemployment left school to go to work during the unemployment period, 21 started to work before the father lost his job, and for 2 it was not reported whether the children went to work before or after that time. In addition to these there were 4 children who worked before the father's unemployment but not after, making a total of 49 children who had been employed at some time.

**Ages of working children.**

Of the 21 children who went to work before the father's unemployment, 17 were boys and 4 were girls. Three of these were 15, 8 were 16, and 10 were 17 years of age when they left school and began working. Apparently it was easier for girls to find work during the

<sup>11</sup> See Table I (p. 31), and Appendix A, Tables 19 and 37-41, inclusive. See also the more detailed sections on "Child Labor in an Unemployment Period" and "Child Labor in Springfield," pp. 115, 120.

unemployment period than it was for boys, since only 8 of the 22 who started to work after the father lost his job were boys and 14 were girls. A larger proportion of these children were of the lowest age—10 were 15 years of age, as against 3 of those who went to work while the father was employed; 8 were 16 and 4 were 17 years old.

The following list shows the ages of the boys and girls who began work before and of those who went to work after the father's unemployment (for two 17-year-old boys the time of beginning work was not reported):

Ages of children.	Began work before father's unemployment.	Began work during father's unemployment.
Total.....	21	22
Boys.....	17	8
15.....	3	5
16.....	7	3
17.....	7	.....
Girls.....	4	14
15.....	.....	5
16.....	1	5
17.....	3	4

During the time the fathers were out of work 47 children passed their fourteenth birthdays; only one of these went to work.

#### Grades completed by children who went to work.

A comparison of the grades completed by the children who worked before the father's unemployment began and those who left school and went to work subsequently is of interest in this connection. The grade completed by the 21 children who went to work before the father's unemployment is shown in the following list:

School grade completed.	Number of children.
Total.....	21
Fourth.....	1
Seventh.....	4
Eighth.....	11
First year high school.....	4
Not reported.....	1

The grades completed by the 22 children who left school and went to work for the first time during the father's unemployment are listed below:

School grade completed.	Number of children.
Total.....	22
Sixth.....	1
Seventh.....	4
Eighth.....	9
First year high school.....	2
Second year high school.....	1
Not reported.....	5

The high educational requirements for employment certificates in the States in which these two cities are located are reflected in the above figures on the grades completed.

The length of time the 45 children who worked during the father's unemployment had been out of school is shown in the following list:

Time since leaving school.	Number of working children.
Total.....	45
Less than 6 months.....	4
6-11 months.....	10
12-17 months.....	3
18-23 months.....	11
24-29 months.....	1
30-35 months.....	5
36 months and over.....	3
Time not reported.....	8

### Occupations.

The occupations of the 45 children who had been regularly employed at some time during the father's unemployment are shown in the list below:

Occupation.	Boys.	Girls.
Total.....	27	18
Factory worker.....	11	7
Clerical worker.....	4	3
Housemaid.....		3
Errand boy.....	3	
Telephone operator.....		2
Clerk in store.....	1	1
Machinist's apprentice.....	2	
Apprentice in garage.....	1	
Telegraph messenger.....	1	
Laundry operative.....		1
Sewing in store.....		1
Printing.....	1	
Not reported.....	3	

### Wages.

Four of the 45 children who worked during the father's unemployment earned less than \$5 a week; 15 received between \$5 and \$10; 17 between \$10 and \$15; and 5 earned \$15 or over. For 4 children the wage was not reported. The children earning less than \$5 a week were 2 boys of 15 and 16 years and 2 girls of the same ages.

The majority of the 42 children working during vacation or after school worked for short periods or on an average of about one day a week and the amounts earned were necessarily small. Seventeen sold papers; their earnings were reported as from 25 cents to \$4.50 a week. The other 25 children worked in factories, on truck farms, in stores, or in private families as domestic servants or nurse girls.

The facts in regard to the employment of children are of special significance in relation to the industrial conditions that prevailed during the unemployment period. The question arises as to whether the children may not have been given work that was needed by adult men and women who were unable to secure employment.

### SAVINGS EXHAUSTED.<sup>12</sup>

The previous economic status of the families included in the study, as well as the character of the fathers as workmen attempting to provide not only for the present but for the future needs of their wives and children, is indicated by the fact that 43 per cent had accumulated savings which helped to tide them over the time of unemployment. Among the families giving complete information in regard to the sources of maintenance during unemployment, and who reported the use of savings, 46 per cent had supplied two-fifths or more of their living by this means. The majority of the families had exhausted their savings before the time of the inquiry. The effect upon the families of loss of savings combined with the acquisition of a load of debts or with the necessity of seeking charitable aid is obvious.

#### Amount of savings.

A total of \$51,635 in savings was reported as having been spent by 158 families while the father was unemployed. In Racine 97 families had used up savings amounting to \$32,322, and in Springfield, where the loss of work had been less serious, 61 families had spent a total of \$19,313 of savings. The average amount of savings used per family in Racine was \$333 and in Springfield \$316.

The amount of savings that were used up while the father was out of work prior to the time of the agents' visits to the families is shown in the following list, for the two cities combined:

Savings spent during unemployment.	Number of families reporting savings.
Total number of families reporting savings.....	158
Less than \$100.....	23
\$100, less than \$200.....	18
\$200, less than \$300.....	22
\$300, less than \$400.....	21
\$400, less than \$500.....	11
\$500, less than \$600.....	9
\$600, less than \$700.....	7
\$700, less than \$800.....	8
\$800, less than \$900.....	2
\$1,000, less than \$1,100.....	6
\$1,200, less than \$1,300.....	2
\$2,000, and over.....	3
Amount not reported.....	26

<sup>12</sup> See Table I (p. 31), and Appendix A, Table 19.



**Charitable aid in relation to savings.**

The information regarding the relation between savings and charitable aid furnishes an especially significant indication of the straits into which unemployment forced these families, and of the character of the families. In Racine 49 of the 141 families that had received aid had been tided over a part of the time by savings reported as ranging from \$45 to more than \$2,000. In Springfield 18 of the 50 families given aid had used savings amounting to from \$30 to \$800. The effect of the longer and more general unemployment problem in the former city is here evident.

One of the most disheartening facts brought out in the study is that 42 per cent of the 158 families reporting savings at the time the father was thrown out of work had been compelled to seek charitable aid. And in this connection it must be remembered that the families were still suffering from unemployment, and many of those who had not asked for relief might have to apply for it before the father was again regularly at work.

**Loss of homes.**

The agents making the study reported that many of the families who had bought their homes during the time of the post-war industrial prosperity or even earlier, making monthly payments on the interest and principal of the mortgage, were now facing the loss of the homes and of the money invested. That the mortgages had not already been foreclosed appeared to be due, in some cases, to the fact that there was no market for real estate during the time of depression, and the high prices for which the houses had been sold to the owners made it more desirable to let the sales stand than to foreclose, even though the payments lapsed for some months. But at the time of the study a considerable number of families were daily expecting that the loss of the home would be added to their other hardships, and that the money they had already paid in would be forfeited.

**Families who had used up their savings.**

Stories of individual families will give a clearer idea of the seriousness of the loss of savings than can be gained from statistical data.

One family had economized and saved for years, denying themselves many of the comforts and all of the luxuries of life. They had never gone to movies or spent money for any kind of recreation. When the father lost his job a year ago, the mother said that the only thing left to cut down on was food, and this has been done to the limit. The family used to take 2 or 3 quarts of milk a day, but now they get 1 quart of whole milk and 1 of skim milk. This has to suffice for the four children, whose ages are 4, 6, 7, and 9 years.

The father was a coremaker at an implement factory. Though he had been employed steadily, he found it impossible to get ahead, for all the money saved was paid out in doctor's bills for a crippled daughter. Three years ago the family decided to buy a house "on contract." They chose one in a respectable residential neighborhood, a two-story 7-room frame house, with inside toilet and electric lights. In addition to the initial payment the family had paid \$1,260 in monthly installments when the depression came. Now they feel they can not continue to pay the \$35 a month, nor afford the upkeep of so large a house, so they are offering it for sale or in trade for another on which the payments will be lower.

The father worked irregularly at his old job for two months during the past year, and also four weeks for the city. His earnings and the board paid by his brother, who lives with them, make a cash income of \$460 for the year. The family owes \$100 for groceries at a local store and \$112 to the commissary run by the father's former employers. The relief association has furnished \$26 worth of coal and groceries, and the church has given money for fuel, clothing, and food. The father says that the family could not have managed at all without this assistance. All insurance policies have been dropped, because the payments could not be kept up.

The father of an exceptionally industrious and ambitious Ukrainian family is a pleasant-appearing man of about 50 years, a blacksmith by trade, capable of earning an average of \$175 per month. The mother, 40 years old, has been laid up for five months with a sore knee. The doctor says the cartilage is loose. She is in such pain that she can not sleep. The father and the children have been doing the housework, and a neighbor comes in to bake bread.

There are five children, the oldest of whom, a girl of 16 years, is in Chicago taking nurse's training. The others are 4, 7, 11, and 14 years of age.

The family is buying the house in which it is living. This is a two-story frame building, which the family remodeled, painted outside and in, papered, and wired for electricity just before the father lost his employment. The parlor, shut off for the winter, had been newly furnished, but the rest of the furniture was old, though in good condition. The living room was crowded with furniture, including a bed in the corner. It was overheated by a small, rusty coal stove. The washing was hung on the chairs to dry.

The mother says that during the first years of their married life they despaired of ever getting ahead. Though the father was making fairly good wages, their expenses increased as the children came and they could do no more than break even at the end of the year. The mother planned carefully and bought for cash, trading where she could get the most for her money. After the last child was

born, the mother decided to help out, and for two years she worked in a cracker factory. In this way they managed to save \$1,500 during the two years, and this they invested in the stock of a municipal-service corporation. The following year they started buying a house, borrowing \$500 from the bank for the initial payment. The place was in bad condition, and the father used all his surplus, even going into debt, to have it repaired. The consequence was that when the father lost his job 13 months ago he had nothing on hand. In order not to have to sell his stock, he applied to the city and to the relief association for a loan until work started up again. The loan was refused, and he was advised to sell his stock. This he did, and after paying \$500 to the bank, his 1920 taxes, and the various bills for repairs he had \$435 of his \$1,500 investment left for living expenses. This was used for food only. The father has earned only \$83.12 since he lost his job, and the second floor, which rented for \$25 a month, has been vacant for five months. When the savings were gone, they were unable to get credit and they had to ask for help from the relief association. The mother wept at the thought that the earnings of those two hard years were gone with nothing to show for them.

The mother has cut down expenses as much as possible. She takes 1 quart of milk a day instead of 2, though the children beg for milk on their oatmeal. She gets no meat except the 3 pounds a week with the commissary orders. They live chiefly on bread, coffee, potatoes, and cereals. The most urgent need at present is clothing—the children's underwear is thin and worn, and the oldest boy has no waists for school. The teachers are urging the mother to send the youngest boy to school, but he has nothing to wear but thin cotton suits.

The situation seems to be getting more difficult every day. The parents gave up insurance policies the premiums of which came to \$5 a month, and the surrender value of these was applied on the future payments of remaining policies. They are five months in arrears for payments on the house, \$150 interest is due, and also the 1921 taxes of \$105.98. Altogether they owe \$338.75. The electricity has been cut off, because of a \$5.30 bill. The daughter in Chicago is badly in need of clothing, but the mother has nothing to send her. The mother refuses, however, to allow the girl to drop the nurse's training course and go to work, since in one more year she will be able to earn at least \$25 a week. Both the mother and father are very proud of her.

One father came from Armenia to America 11 years ago, full of hope that he would make money and soon be able to send for his wife and baby, whom he had left behind. He was a common laborer, and because he was willing and industrious he easily found work.

He worked hard and steadily, living as cheaply as possible, and measuring his income not by his earnings but by what he was able to save. After he had been in America only a few months he received the news of the birth of his second child. Before long there came rumors of Armenian massacres, and word of the desperate need of his own family and of other relatives. He sent them as much money as possible, and still continued to lay aside a small amount monthly with which to bring his family over. By January 1, 1920, the father had managed to save \$1,950, so he quit his job and went back to Armenia. He found his friends and relatives on the point of starvation, so he kept only just enough of his money to bring to America himself, his wife, and one child, and gave away the rest. He could not afford to bring the second child, so left her with his uncle. When the family landed at Ellis Island they had just \$100 left, which was spent for railroad fare to the city where he had been employed. The father, however, was not worried, for he was confident he would get his old job back. When they arrived there, the factory where he had formerly worked had been shut down, and there was no work whatever to be found. His immediate need of work and money was the more pressing, because his wife gave birth to their third child two days after they reached the city.

The father has walked the streets in vain to find work and has called daily at the employment office, yet in the year since his return to America he has earned only \$142.80. He was not known in the neighborhood, so was able to obtain credit only to the extent of \$25. When this was exhausted he turned to his "partner," from whom he has borrowed a little at a time until he now owes \$500, and this friend can lend him no more.

The family is living in one of a row of small frame houses built flush with the sidewalk, and with narrow passages between them. The interior contains only the most necessary articles of furniture, but it is spotlessly clean. They live very meagerly, using very little meat, no fruit, no cakes, and they are buying no milk, though the mother realizes that she should have it for the baby. She has had no new clothes since she left Armenia. The mother demands very little—says she only wants a crust of bread and that just to be safe in America is heaven.

A Polish family after 10 years of hard work and strict economy has managed to pay off the mortgage on a home. Although the neighborhood is not very desirable, the house is well built and is located on a good-sized corner lot, neatly fenced in. The furnace, electric lights, and gas range with which the house is equipped, as well as the inside toilet, were added by the family and have also been paid for, in spite of the fact that there are six children. The oldest boy, 19 years of age, has been in the Navy for three years and

has not given much help financially. The other five children range from 4 to 16 years.

When the father was laid off over 11 months ago the family was free from debt and had a small savings account of a hundred dollars or so. He has worked very little since then—one week for the city and two days a week for a couple of months weeding onions on a farm. The mother, well accustomed to planning carefully and living cheaply, made what money they had last as long as possible. When it was gone she obtained credit at the local stores to the extent of about \$45, when she was told she could not have more. She then was obliged to apply for charity. The relief society sent groceries and fuel worth \$33.76, and the Red Cross helped for two months. However, the assistance given was not adequate, and neither organization wanted to help them because they owned their house. "Can I eat the house?" said the mother sarcastically. "People who rent are better off." She says no one wants to rent the upstairs rooms because the family has so many children. The mother is very bitter about present conditions. The family is behind on insurance payments to the extent of \$55.73.

A Bohemian family, father 45 years old and mother 43, by years of economizing had managed to raise a family of eight children—the oldest 21 and the youngest 1 year of age—and in addition to save enough to buy a house. At the time the father was laid off in August, 1920, the house was clear of debt, and the family had \$1,000 in the bank. The three eldest children had worked and had done their share toward putting the family on its feet. The father and the oldest two boys all lost their jobs about the same time. One of the boys was on a strike and received \$8 a week strike benefit from the union. During the past 17 months the father has worked about 6 weeks, earning a total of \$103. The 18-year-old daughter is the only one who has had steady work, and she has turned every cent of her \$70 a month over to the family.

At the time of the agent's visit the father had just drawn the last of the savings from the bank. The family has lived as economically as possible, but they have come to the end of their resources, and the father feels that the only thing left to do is to sell the house. He is very unhappy about it, but it seems his only alternative.

### THE BURDEN OF DEBT.<sup>13</sup>

#### Extent and forms of indebtedness.

Of the 366 families 83 per cent (303) had incurred debts because of the father's loss of work, or were unable to continue payments for which they had obligated themselves while the father was working.

<sup>13</sup> See Table I (p. 31) and Appendix A, Table 19.

In Racine the proportion was higher than in Springfield—91 per cent as against 69 per cent. The largest number of families—240, or 66 per cent of the total visited—were in debt for food supplies. The next largest proportion (43 per cent) were in arrears with rent or the periodic payments on their homes. Medical attendance had burdened with debt over a third of the families, and almost an equal number had been obliged to borrow money. The details as to the kinds of debt follow. The different groups include many of the same families, since four-fifths of the 303 families had debts of more than one kind.

Kind of debt.	Per cent of 366 families reporting	
	Num-ber.	debts incurred for each object.
Loans.....	117	32
Food.....	240	66
Rent.....	83	23
Payments on house, taxes, interest.....	75	20
Medical attendance.....	127	35
Fuel, gas, light.....	57	16
Insurance premiums.....	55	15
Furniture.....	33	9
Repairs on house.....	17	5
Funeral expenses.....	7	2
Merchandise.....	5	1
Other items.....	16	4

A total of \$81,629 in debts was reported for the 303 families—an average of \$269 per family. Two hundred and ten families in Racine had debts amounting to \$70,423, or an average of \$335 per family, and 93 families in Springfield owed \$11,206, or an average of \$120 per family.

The amounts of indebtedness are shown in the following list:

Amount of debt.	Number of families reporting debts.
Total.....	303
Less than \$100.....	85
\$100, less than \$200.....	69
\$200, less than \$300.....	49
\$300, less than \$400.....	29
\$400, less than \$500.....	21
\$500, less than \$600.....	16
\$600, less than \$700.....	3
\$700, less than \$800.....	8
\$800, less than \$900.....	3
\$900, less than \$1,000.....	3
\$1,000, less than \$2,000.....	8
\$2,000 and over.....	2
Amount not reported.....	7

### Proportion of maintenance secured through credit or loans.

From only 106 of the families reporting the debts incurred was it possible to secure adequate information on the proportion of the total

family resources during the unemployment of the father which the debts represented. For these families the figures are as follows:

Per cent of total family resources represented by debts.	Number of families reporting.
Total.....	106
Less than 15.....	25
15 to 39.....	38
40 to 69.....	34
70 and over.....	9

More than two-fifths of these families derived over 40 per cent of their maintenance through credit or loans, nearly a tenth of the families had to incur debts for 70 per cent or more of their entire living expenses.

The fathers in all the 303 families reporting that they had gone into debt in order to provide the family's livelihood and also in the remaining 63 families not reporting debts, were still out of regular employment, and so long as this condition continued, and steady income through wages was cut off, the burden of debt would keep on piling up.

### The cost of cash loans.

A number of the families visited had secured loans for small amounts from a company having branches in various parts of the country. Its method of lending was very attractive, in that money could be secured quite readily, and the borrower, in dire need of the funds, did not figure on the total cost in interest and penalties. On its face, the plan seemed to lend money at 6 per cent interest. The usual amount borrowed was \$100, and separate loans were made for each \$100. To secure a loan two guarantors, or "comakers" had to sign the note and they became equally liable with the borrower for repayment. Men who had secured loans stated that they sometimes had to wait as long as two weeks for an answer as to whether the loan was to be granted.

The borrower was given \$94 for every \$100 for which a note was given—that is, 6 per cent interest for a year was deducted at once, and borrowers were told they were getting the money at 6 per cent. Beginning with the Saturday after the loan was made, the borrower was required to make weekly payments of \$2 for every \$100 borrowed. The payments thus extended over a period of 50 weeks. If any payment due was not made by the time the office closed at noon on Saturday, a fine of 5 cents on every dollar due was added, and an additional 5 cents was added for each dollar for every week it remained unpaid. An additional charge of 50 cents was made in case the borrower lost the little coupon book in which payments were receipted. Usually loans were not allowed to run more than two weeks without payment. By this plan the borrower at no time had

the use of the full \$100. He had the use of the \$94 for only one week or less, and then the loan was reduced at the rate of \$2 a week, until at the end of the forty-ninth week the borrower had the use of only \$2, although he had paid in advance 6 per cent interest on \$100 for a year.

It is obvious that this method of securing money to tide over emergencies became a serious drain on the weekly resources of the family during a time when the income was very uncertain. It was used, apparently, not to help out on the current living expenses of the family, but to satisfy requirements for the outlay of a considerable sum that had to be met somehow at once, even though the continuing payments on the loan meant the depletion of the already meager weekly resources.

### **Families who had mortgaged the future.**

A few examples of families who had become heavily burdened by debts will serve to illustrate the situation in which a large proportion of families found themselves after the father had been out of work for a few months.

An Italian family consisting of father, mother, and four children ranging from 2 to 10 years of age, is heavily in debt. The father is 42 years old, and has been in the United States 10 years. He has recently passed the examination for his citizenship papers but can not afford the \$4 necessary to obtain them. He is a laborer and a steady worker and eager to get ahead. In 1920 he earned in the neighborhood of \$2,000. Three years ago he began buying a six-room house on "land contract"—the monthly payment of \$20 covering interest on the mortgage and a small payment on the principal. The house is comfortably furnished, having a good dining-room set and a victrola and a leather davenport in the parlor.

The family had not been able to save, because the house was old and in need of repairs, they needed furniture, and the poor health of the mother had necessitated large expenditures for doctors and medicine. As a result, the father was utterly unprepared for the long period of unemployment which came upon him without warning in October, 1920. The family was favorably known in the neighborhood, so obtained credit and struggled along for over a year without asking public aid. The father's total earnings during 14 months were \$28, which he made at work for the city. To add to their difficulties the mother had to undergo a serious operation, the bills for which are still unpaid. Also, the father's brother died, and the father had to share in the funeral expenses. Since credit was cut off in November, 1921, the family has been receiving one grocery order a week from the city commissary, and also was given a Christmas basket and some clothing by the relief association.



The mother has cut down living expenses to the limit. She takes less milk, and no meat, fruit, or sweets. The meals are practically all alike—bread, coffee, and spaghetti, or bread, coffee, and beans. The children's outside clothing is holding out pretty well, but their underwear, which was cheap to begin with, is torn, thin, and much patched. The day before the agent's visit a large amount of plaster had fallen from the dining-room ceiling, and the father has managed to buy "on trust" the materials to repair it. The rooms need repapering badly. The payments on the house are seven months in arrears, and the father fears he will lose it.

The family now owes:

Groceries.....	\$400
Meat.....	15
Shoes.....	10
Clothing.....	80
Doctor's bill.....	114
Hospital bill.....	28
Repairs to house.....	155
Uncle's funeral.....	55
Payments on house.....	140
Cash borrowed.....	155
Total.....	1,152

To this must be added what they owe the city commissary.

Both the mother and father are nearly frantic with worry. The mother has a great deal to do at home, yet she has been walking the streets looking for work. She broke down and cried over the situation. The father figures that even if work begins at once it will take him at least 10 years to get out of debt. He dreads the time when he begins earning again, for he will be working for less pay, every one of his creditors will want to be paid immediately, and his family must live.

A family consisting of father, mother, and five children, ranging in age from 9 months to 9 years, occupies four small rooms on the second floor of a three-story frame building, above two stores. The halls are dingy and dirty, and the air vile with stale tobacco smoke and the odor from the toilets at the head of the stairs. One bedroom which opens off the dining-room has no window, and is just large enough for a double bed. The father, mother, and two children sleep here. The rooms were orderly but not very clean. The furniture was worn and shabby.

The mother says she never had been in such need. They had never been able to save because they had so many children to feed and clothe, but they had always been able to pay cash for everything. The mother has a great fear of debt, and of accepting charity. The father has been out of work for 10 months now, but has been called back to his old job occasionally for a few weeks at a time, so that he

has managed to earn about \$200. Except when he had temporary work there was nothing to do but go in debt, for the children had to eat. The family owes \$300 for groceries, \$15 for milk, \$8 for gas, \$70 borrowed from friends, \$18 on a baby carriage which they bought just before the father lost his job, and \$33.80 to the city commissary. In addition, they owe \$80 for rent, and the landlord is becoming very disagreeable. "Landlord want to kick us out," the mother says. "My man say 'You get me job, I pay rent.' I don't know what he going do."

The mother has always been economical but now has not even the necessities. She used to get 2 quarts of milk a day, now gets only 1. She said she did not realize they could get along on so little. The clothing was old and worn. The aid society has given \$93 worth of groceries and milk and also considerable old clothing. When the mother feels badly about accepting charity, the father, who came from Italy 17 years ago and took out his naturalization papers as soon as possible, tells her, "We good citizens. We help America. Now America must help us."

The father strained his back while working last fall and was in a hospital in Chicago for a number of weeks for examination and treatment. He is better, but his back is still not very strong. The mother says he refuses to go to the aid society for their weekly grocery order and also refuses to care for the children while she does so. "My man no like kids—no like bother when they cry." Consequently, the 9-year-old girl is kept home half a day every week while the mother goes after the groceries.

A Polish father, a machinist 36 years of age, has been in the United States 20 years and was progressive enough to take out his naturalization papers. His wife, an American-born woman, is 33 years old, and they have 5 children, 2 boys and 3 girls, ranging in age from 7 months to 13 years. They live in a pretty little bungalow, most attractive from the outside, shrubs around the house, a corner lot. The inside of the house presents a great contrast. Several of the rooms have been shut off for the winter. There are no rugs on the floor, and the furniture is much battered and worn.

The father has been out of work for 16 months, with only one month's work on a farm and four weeks' work for the city to help out during that time. The total earnings were \$85. The family has been buying the house. This has taken every cent over and above what they needed just to live on, so they had no savings to fall back on when the father lost his job. The last child was born after the father was laid off, which meant an added expense, and two of the children have been ill enough to need a doctor. The family is now so deeply in debt that the father doubts if he ever can get paid up again. After exhausting their credit with the local grocers and

borrowing all they could from friends they turned to the commissary run by the father's former employers, where they have been allowed to run up a large bill. The debts are as follows:

Groceries.....	\$200
Meat.....	100
Bread.....	75
Payments on house.....	540
Taxes.....	105
Doctor's bill.....	3
Midwife's bill.....	20
Borrowed from friends.....	300
City-commissary account.....	56
Factory-commissary account.....	229
Total.....	1,628

In addition, there are arrears for insurance on the house and the father's life insurance, but the father can not tell just how much is due on them. The family has also had charitable aid. The relief association has given groceries, milk, fuel, and clothing amounting to \$133.

The mother now takes 2 quarts of milk daily instead of 3. They are living on charity entirely at present. They have meat only when the father gets an odd job and they can pay cash for it. The electricity has been shut off because the family can not afford it, and several of the rooms have been closed to save fuel. At the time of the visit the father was neatly dressed, but the children were playing around with scarcely any clothing on.

The father of a family of four children, 7, 12, 13, and 15 years of age, earned \$21 a week as a laborer in a brickyard, but in the eight months of his unemployment he has earned only \$108. During this time the family income has been supplemented by \$42 earned by the eldest boy and by \$41 received from the insurance company as the cash value of a policy on which payments had been made for 10 years, representing a loss of \$89. During the summer the mother had helped the situation by taking the three younger children with her to Connecticut, where she was able to earn their support. The family lives in a house owned by the brickyard company and are compelled to buy groceries, except bread, at the company store. They owe \$58.10 for rent and food.

A Hungarian family is living in a small one-story house, with garden space in the rear. The house is very damp—frost on walls, doors, and floors, and the room supposed to be a kitchen is too wet for use. The family was obliged to move here because unable to pay the rent (\$25) of the former home, which had electricity, gas, and a bathroom. The house they now occupy has stove heat, kerosene lights, no gas, and an outside toilet.

The parents have been in the United States 18 years. There are five children—two boys of 7 and 8 years and three girls of 10, 12, and 16. The father, a molder, was laid off 14 months ago. He had but \$250 saved and this was soon used up. He picked up what odd jobs he could—painted three houses in return for three months' rent, worked for the city—in fact did anything that would help the family along. Since November, or for the last two months, he has been working for \$4 a day five days a week, so the family is getting along better at present. Shortly after the father began his present job he cut his finger to the bone while splitting wood and lost three weeks' work. The mother dressed the finger to avoid a doctor's bill. The oldest girl works when she can find anything to do. She was employed in an ice cream parlor for several months, but was laid off last July and could not find another job until November, when she went out to do housework at \$4 a week.

The mother has had difficulty in getting credit in the neighborhood. "Butcher no want give me meat. On Saturday give only 1 pound—not enough for a big family." The landlord of their former house, she said, did not want them because of their race, and told them to get out. A coal man near by let the mother have a ton of coal. The mother had a small garden last year. "Lady from association see garden, say 'Got much fine garden—lots to eat.' But it is only green stuff—that give me no bread or lard. I can't eat only that with my big family." The mother is in wretched health. Seven years ago she used to go out washing every day; now she is scarcely able to do her own housework—has to wash one day and hang out the clothes the next. The second daughter was ill and required the services of a city nurse for two weeks.

The family has had charitable aid to the extent of \$101.49 and the debts amount to \$187.60:

Meat and groceries.....	\$93.00
Bread.....	16.00
Coal.....	8.75
Clothes.....	5.00
Insurance.....	6.85
Rent (former home).....	45.00
Dentist.....	5.50
Doctor.....	7.50

An Armenian father came to America in 1909, worked hard, and saved about \$3,000 so that he might bring his wife and child from Armenia. When he went after them in October, 1919, he found his wife and child and a few relatives the only survivors of a large family. He gave all the money he could to assist his relatives. Then he and his wife and child came to America, bringing with them his sister's child, a girl of about 14 years, who is paralyzed. The father began work at an implement factory as soon as he got back and was kept

on until 6 months ago. What little money he might have been able to save he spent in doctors' bills for his niece, taking her first to one doctor and then to another. Finally he asked the relief society to help him, and they are trying to get the girl into a hospital.

The family lives on the second floor of a two-story house in bad repair, in a neighborhood of factories and railroads. The entrance to the rooms is by a very dark hall and stairway. The home is fairly well furnished, though not orderly. A second child is now a year old.

Since the father was laid off he has worked a week for the city and about a month and a half in another city, where he repaired oriental rugs. He earned a total of \$237. He says that they can live on much less food than Americans, and get along with canned goods. They buy less milk and just half as much meat as formerly. They ran up a \$156 grocery bill, and then credit was cut off. They have borrowed \$325 from relatives, owe \$35 on furniture, \$96 for six months' rent, and \$35 to his former employers. The father has had to drop his insurance. Relatives in Armenia beg him for money. The father has told them that he is hard up, but they can not believe him. He hopes to be able to borrow a few dollars to send them.

During the past 10 months an Italian father has earned \$192 by labor on the city sewers, and the only additional income has been \$100 paid as damages when he was run over by an automobile. This last sum met the rent for five months. Since there are five children—although the mother is but 23 years old—debts have been incurred for food, rent, and medical care. In an attempt to meet some of the payments due, the father borrowed \$200 on a plan which involves high interest and had the unhappy result of losing him further work from the city government. The family is now in debt nearly \$1,100. While the father was steadily earning \$30 a week as a metal worker, they bought furniture, clothing, and a player-piano on the installment plan, meeting the payments regularly until he lost his job. Of the total debt, \$600 is for the piano which will probably be taken away from them soon; the sum already paid on it will be forfeited. Twenty-five dollars have been lost through the lapsing of insurance payments. The home is squalid, the children are badly in need of clothes, and it is apparent that they have altogether too little to eat.

A painter who was forced to stop work last August because of lead poisoning, bought a horse and wagon and tried to make a living for his family by peddling fruits and vegetables. This venture was an unfortunate one, because his customers failed to pay their bills; and in October, because he was unable to meet the payments due on the horse and wagon, he lost the money (\$125) already paid on them.

In the past four months the family—consisting of the parents, seven children ranging in age from 2 to 14 years, and a grandfather—have subsisted on what the father has earned at a few scattering jobs, the \$5 a week which the grandfather pays for room and board, and the total of \$48 which the mother has earned at crocheting bags. Friends have given some clothes, and are supplying the family daily with skimmed milk. Although there are seven children, most of them at ages when whole milk is indispensable for health and growth, this is practically all the milk the family is now getting. For two weeks the father has been peddling fruit, clearing about \$2 a day. The parents have fallen behind with their insurance and are heavily in debt for rent, groceries, and medical attendance. Besides the father's illness, he and two of the boys had the "flu," and the 5-year-old boy was severely burned. The mother expects soon to get temporary work nursing a friend, during which time the eldest daughter, who is 14 and attending the afternoon session of the high school, will presumably have to stay out of school to care for the smaller children.

DETAILED TABLE C.—*Debts incurred or unpaid because of unemployment.*<sup>1</sup>

Schedule number.	Duration of unemployment (months).	Average monthly resources during unemployment.	Amount of debts for—							
			Loans.	Groceries and meat.	Fuel and light.	Doctors, dentists, midwives, hospitals.	Payments on house (including mortgage, interest, taxes).	Rent in arrears.	Arrears on insurance.	Other.
3	16	\$57.24		\$157.26		\$2.00		\$65.00	\$1.60	
8	16	75.59	\$300.00	65.00						
17	15	35.61		38.11					4.00	
21	20	41.60		172.00		116.00			10.47	
26	14	71.44		219.55			\$285.00			
29	15	97.63	400.00	50.00						
39	13	63.00		155.11				50.00	23.71	
40	8	83.84		202.57				45.00		
42	17	84.24	400.00	50.95						
43	17	50.46	300.00	200.00				72.00		
49	13	60.34		237.69	\$3.00				1.24	\$3.23
50	8	60.63	50.00	54.13		9.00	251.97		6.93	
51	8	30.91		10.00			238.89			
55	16	46.38		137.00						
56	14	44.11		379.57						
58	15	81.09	300.00	25.00		67.00				47.00
59	16	60.54	50.00	167.34		6.00		78.00		
60	10	54.19	30.00	69.00		8.00		100.00		
62	15	52.00	300.00	18.37		1.00				
63	21	49.35		43.43						
64	13	69.56	25.00	246.73				75.00	6.00	132.00
68	13	29.92	120.00	5.00			60.00			
69	9	49.70		222.26				45.00		
74	8	120.36		150.00			132.00			
76	12	236.03		222.59			352.00			335.00
78	15	79.33		14.00		2.00	420.00			
79	16	44.96		66.22		71.00				38.00
84	14	103.28	500.00	72.93		10.00				
85	8	44.44		69.93						
86	18	66.85	483.00				210.00			
88	6	67.80	20.00	136.80		30.00		30.00		100.00
89	16	43.88		71.83			146.00			28.00
90	8	72.84		83.00		5.00	154.00			
91	8	106.03	400.00				117.00		35.00	

<sup>1</sup> Includes only the 104 families reporting debts and average monthly income during unemployment.

DETAILED TABLE C.—*Debts incurred or unpaid because of unemployment—Continued.*

Schedule number.	Duration of unemployment (months).	Average monthly resources during unemployment.	Amount of debts for—							
			Loans.	Groceries and meat.	Fuel and light.	Doctors, dentists, midwives, hospitals.	Payments on house (including mortgage, interest, taxes).	Rent in arrears.	Arrears on insurance.	Other.
94	8	\$62.85		\$30.00	\$5.00		\$100.00			
96	16	88.01		12.00						
102	15	94.63	\$1,000.00	39.75						\$5.00
103	13	90.98	180.00		35.00					
109	11	63.39	35.00	5.92		\$13.00			\$35.00	
111	12	42.99		154.77			81.00			194.75
112	15	40.06	80.00	75.88	34.00	35.00	163.66	\$54.00		
118	15	85.16	300.00	50.00		30.00	105.00			
125	17	69.25	250.00	199.84			250.00			63.00
126	23	37.75		107.08		30.00				
127	8	99.36		50.00						
136	13	115.45		1.50	8.75	22.50	200.00			
137	13	97.97	400.00	360.00	16.00					
139	6	152.50	325.00	156.00	35.00					35.00
140	13	126.05		250.00		500.00				
145	10	35.11	20.00	113.14	7.00			32.00		
146	14	20.36		165.93						
152	13	51.38		94.38	4.38	15.00	355.00			
153	14	30.29		20.00						
162	4	36.57		80.00						10.00
165	10	48.26		86.17	10.00		225.00		7.00	
168	15	148.56	1,400.00							
177	9	44.51		197.00	12.00	8.00	15.00			
179	13	83.48		269.31		19.00				
180	13	37.48		131.13	8.75		76.00			
184	12	56.84		27.00	44.00	21.00	55.00			
185	11	85.28	20.00	100.00						
187	15	52.14				48.00				
188	13	82.67		18.00	12.00					
189	12	65.25	120.00	210.47			160.00			25.00
190	13	123.29	20.00							
191	15	73.09	350.00	89.73	4.00			60.00		
192	9	56.33	100.00	64.15						
193	12	53.84	500.00	25.00						
196	15	83.40	200.00	77.97	20.00		135.00		3.90	
198	16	62.51		100.00	52.00	20.00		200.00		
199	10	33.10	200.00	100.00						
200	15	56.98	100.00	41.35		8.00				
201	15	136.62		45.00						
202	13	40.28	150.00	52.00				60.00	7.01	
203	17	70.94	500.00	165.00	39.00					75.00
205	10	79.63	70.00	348.80	8.00			80.00		18.00
208	17	60.81	35.00	32.80			40.00			50.00
209	13	157.34	150.00	68.00		5.28	207.00		6.04	
210	8	25.73	75.00	39.50						
212	16	56.77		112.00		31.00		78.00		372.00
217	12	44.59		105.82		12.00				4.00
219	16	54.11	295.00	28.49	5.00		46.00			150.00
220	19	65.46	235.00	53.63		70.00	28.30			
222	13	60.88		97.00	31.09					
223	13	56.07	25.00	150.72				90.00		45.00
229	15	119.71	150.00	90.00	10.50	32.00				4.00
231	16	109.29		108.46		8.00		27.00		55.00
236	9	67.28							19.00	
237	6	168.47	250.00							
246	19	53.70							2.21	
249	13	86.09						110.00		
252	7	41.10						150.00		
253	10	58.14	300.00			30.00	66.00			
258	17	118.01	205.00	18.00		34.00				
282	12	91.30						9.00	8.14	
306	10	37.63				3.00			24.00	
307	8	58.24					156.00			
309	n. r.	n. r.				5.00				
312	9	100.26					66.00			
331	13	46.53		15.00				9.00		
347	14	111.94		120.00				66.00		28.00
358	24	65.76		75.00						
359	15	32.15		100.00						
361	7	62.70		300.00		25.00		16.00		10.00

### Credit for food supplies.

In order to secure information concerning the extent to which it was possible for families to get food supplies on credit, and especially in regard to the comparative prevalence of such debts during the period of unemployment and the period preceding, neighborhood grocers were interviewed. The stores from which information was sought were those patronized by the families of unemployed men included in this study. The results of these interviews are set forth below.

1. This store is located in a good residence neighborhood, where most of the families own their own homes. It is a grocery store with a rather large stock of perishable vegetables and fruits, no meats except smoked meats and these in a very small quantity. Not many of the customers who trade at this store pay cash. The grocer said that most customers ran a bill for from two weeks to a month and then paid when the father received his pay. At the present time he has 300 families on his books—100 of these are families in which the father has been unemployed for more than 1 year. He has had to refuse credit to 12 families from which he never expects to receive what is due him. The total amount due from 100 families in which the father is unemployed is approximately \$6,000—amounts varying from \$25 to \$200. Most of the fathers the grocer thinks are honest and will pay when they are again employed. Some who have had temporary work for a while have paid a small proportion of what they owe and then continue to buy on credit.

2. A double-store building—one side used for dry goods, the other for groceries, bakery goods, and smoked meats. The amount of credit given to a family depends upon circumstances and the family's reputation and the length of time they have been trading with him. The grocer watches the purchases pretty closely but finds most of the families buying on credit choosing wisely and reducing their purchases to the minimum. He has about \$5,000 on his books, representing 200 families with bills varying from \$25 to \$250. The year has been a terrible one. He did not have the heart to refuse credit, and bit by bit he used up all his reserve funds just keeping things going. All his life's earnings have gone, Mr. X. says. He feels that fully one-half of this will never be paid, for already those owing the largest amounts are moving—some to other neighborhoods and others out of town. Many of the families owing bills are ashamed to come to his store, so go elsewhere when they have a little cash—which he feels is unfair. Those customers to whom he had had to refuse further credit are getting deeper in debt at the city commissary every day, and since this will be deducted from the man's pay every week it, of course, will be paid off first. Bills to the local merchants will be paid last, if at all. He feels that the city commissary, while a blessing to the poor families, has made it hard for the merchants, for it has taken



away the cash trade that used to be given them by the public and private relief agencies.

3. Small butcher shop and delicatessen. The proprietor is not giving much credit this winter. He is carrying about 15 or 16 families well known to him, to an amount of about \$300, but his trade is chiefly cash. Said he learned his lesson last year. At one time he had \$4,000 on his books and had to borrow money at the bank to tide him over. The greatest part of that has been paid now, but it came in slowly. He felt this year would be worse than last. He thinks that the people did not properly appreciate being "carried," and says that he noticed no difference in their buying, when doing so for credit or for cash. The majority refused soup bones and the cheaper cuts of meats and ordered steaks and chops. He seems to feel that the men won't look for work very seriously while they are able to get meat and groceries on credit.

4. Medium sized well-equipped and well-stocked store. Fruit and green vegetables upon display. The grocer also carries brooms and other household utensils. Most prosperous appearing store of any that agent has visited. Has been in business here since April, 1921, and is carrying on his books some of the people that the former owner had. He tries not to close any accounts unless the family makes no effort to pay. Many of his credit customers had been in the habit of charging their groceries and then paying the bill weekly or monthly. Now, however, some of them have not been able to keep the bill paid up. Some of his customers would have been getting aid from the relief society if he had not extended their credit. This grocer thinks that for the most part people are buying very economically. Several customers came during the interview and the agent noticed that all but one charged their purchases.

5. Family of owner lives in the rear of the store. Fairly well-stocked shelves, mostly canned goods although there were apples and oranges and cabbages in the window display. The grocer carries no meat except a little cooked meat. Not much bread is sold, because most families are now making their own bread. Average about 12 quarts of milk per day and other sales consist mostly of bread and potatoes. The grocer has 10 or 15 families on his books. Most of these are also getting groceries at the city commissary and therefore give very little trade to the store. The largest bill on the books at time of the interview was \$41.36. Other accounts run between \$5 and \$10 apiece. The grocer admitted that it was better for the families to buy from the commissary because they could get things cheaper. Families whom grocer is carrying pay a little each week. They buy only what is absolutely necessary.

6. The store has a small line of goods, mostly canned vegetables; shelves about half empty. Owner can not replenish the stock because he can not collect bills due him. He had about \$700 on his books at

time of visit. He has no limit set for credit but allows families to get according to what he thinks they are good for. At present has 15 or 16 families on his books. So far thinks he has lost only about \$100 in bad bills. Few people have moved away without paying.

7. Rather small grocery store on business street and car line. It carries staple and fancy groceries, flour, feed, lime, and cement. The manager said he knew all of his families and in the last year had not taken on any new families for credit. He carries about 100 families on credit. At the end of the year 1919 these 100 families owed bills amounting to \$1,200. These same 100 families at the end of the year 1920 owed \$1,700 and at the end of 1921 owed \$3,300. Most of these families own their homes, and the manager said he knew he would get all of the money. In the three years he had been running this store he had lost only \$250 by people moving away.

8. A fair-sized, attractive looking store, carrying a good line of fruit, fresh vegetables, etc., in addition to staples and dairy products. This store has extended credit to 90 or 100 families, to a total of \$6,000. Can not make ends meet, so have had to refuse further credit in most cases, though they hate to do it. They feel that fully one-half of this is "bad debts," not so much that the families' intentions are not good, but that they are so deeply in debt that they never will get out. Since the commissary accounts must of necessity be paid first, the merchants may never receive their money. The prospect looks even more discouraging because when the men do go back to work it will be at less pay and possibly for shorter hours. One customer lost his house last week and left town suddenly, owing \$290. The amount of credit depends upon circumstance. They have been lenient with old patrons who paid regularly and some of these families have run bills as high as \$250 or \$300. To other families not so well nor so favorably known they have limited the amount to \$25 or \$30. Most of the families buy economically, but occasionally a man or woman orders extravagantly.

The quantity of milk sold remains about the same but there has been a perceptible drop in the demands for butter. Very little fruit or sweet stuff is purchased now. Mr. A carries less than one-third as many boxes of cookies and cakes as formerly. Aside from depriving themselves of fruit, sweets, and butter, the grocer does not feel that the families have been lowering their standards of living the past year.

9. The store is a combination meat market and grocery with bakery goods, candy, and smoking supplies on the side. It has much less stock on hand now than before, because there is much less demand. The owners are now carrying on their books 50 families whose fathers are out of work, and have been for the last year and a half. The total amount due from these families is about \$5,000,

the amounts varying from \$10 to \$200. The grocer interviewed feels they will be very lucky if one-half of what is owed them is paid. Many families have moved away from the district, some out of the city, and from these they expect nothing. Some people come in with a good story that the husband has a job and they will pay the first pay day; they are given credit for a couple of weeks and then are never seen again. Only necessities of life are given on credit by these grocers. Bakery goods are a serious problem. Many of those to whom credit is given have been refused credit at bakeries. The grocers discourage charging bread and cakes, but are very willing to give flour on credit to those who will use it.

10. The store is located in the "Flats," a district where people of the poorer class live—many of whom are renters. The store is a combination meat market, grocery, and bakery; and carries candy, tobacco, and some dry goods. Previous to this time the grocer has kept a very large stock on hand, but at the present time all the stock which he owns is on the shelves. The grocer is at present carrying 25 families whose fathers are unemployed, and in most cases he has been carrying them for more than a year. The total amount owed by these families up to date is \$1,501, the smallest amount being \$10 and the greatest amount \$160. In addition to these 25 families, the grocer has been forced to refuse credit to 10 other families, the total amount due from them being more than \$800, which amount the grocer says he never expects to receive. He still has some families, possibly 10 or 15, who run bills and pay every two weeks. These, together with the few who pay cash, help him to continue in business. His business has fallen off 50 per cent during the year.

#### CHARITABLE AID BY PUBLIC OR PRIVATE AGENCIES.<sup>14</sup>

##### Assistance given the families.

The families selected for visiting represented, as nearly as possible, a cross section of families of unemployed men in the two cities. The data in regard to the aid given these families by public or private relief agencies should, therefore, be of special significance, as showing the degree to which families of working men are likely to need such assistance when the misfortune of unemployment overtakes them. Of the 366 families, 191—over half—had received charitable aid during the father's unemployment, some of which, however, was very small in amount. In Racine three-fifths of all the families received such assistance; in Springfield the proportion was lower but still over one-third. It has been pointed out that the period of serious unemployment had been of considerably longer duration in the former city, which undoubtedly accounts for the greater proportion of families seeking aid.

<sup>14</sup> See Table I (p. 31), and Appendix A, Tables 28-31, inclusive.

**Interval between loss of work and application for aid.**

The following list shows, for each city, the time that elapsed after the father lost his regular work before the families applied for assistance.

Interval before application for aid.	Families aided, Racine.	Families aided, Springfield.
Total.....	141	50
Less than 1 month.....	6	5
1-2 months.....	33	4
3-5 months.....	42	6
6-8 months.....	19	5
9-11 months.....	12	2
12 months and over.....	6	..
Not reported.....	23	28

In terms of percentages, it is seen that of the 140 families in the two cities for whom the interval before the application for aid was reported 8 per cent applied for charitable aid within less than a month of the time when the father became unemployed. Twenty-six per cent applied within 1 or 2 months; 34 per cent within 3 to 5 months; 17 per cent within 6 to 8 months; 10 per cent within 9 to 11 months, and 4 per cent when the father had been unemployed a year or longer. Thus, more than two-thirds of the families who were aided had been unable to maintain themselves by means of their other resources for as long as half a year after the regular employment of the father ceased. Since over one-half of all the families received aid, this means that approximately one-third of all the families visited in the two cities were forced to seek charitable aid within six months of losing their regular incomes. It is probable that a family would neither apply for, nor be granted, charitable aid from public or private agencies until all other resources had been exhausted. This supposition is borne out by data presented earlier in this report in regard to loans and debts, and especially debts for food. There is, of course, to be taken into account the important but less readily demonstrated factor of the deprivation endured by many families who do not apply for aid.

**Duration of aid.**

The length of time over which charitable aid to these families extended is shown below:

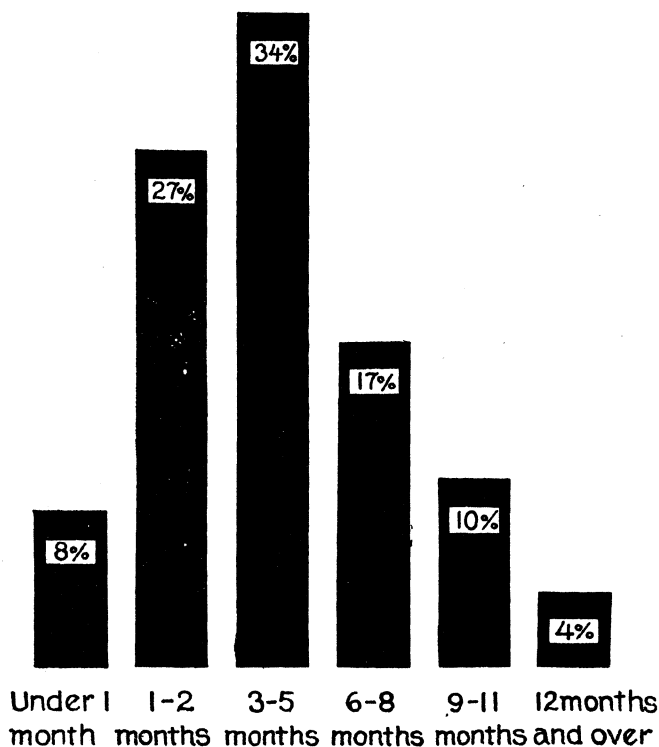
Duration of aid.	Number of families report- ing duration of aid.
Total.....	141
2 weeks, less than 1 month.....	5
1-2 months.....	17
3-5 months.....	21
6-8 months.....	21
9-11 months.....	62
12 months and over.....	15

Aid extending over periods of six months or more had been given 70 per cent of the families. More than one-third of the families had been given aid amounting to \$100 or more.

CHART VI.

## INTERVAL BETWEEN LOSS OF WORK AND APPLICATION FOR AID

140 FAMILIES APPLYING FOR CHARITABLE AID



### Aid to families of skilled and unskilled workers.

Bearing in mind the extremity represented by application for assistance, especially on the part of families that have always been self-sustaining, it is surprising to find that almost three-fourths of the men in the families receiving charitable aid had been skilled workers, and only one-fourth had been employed at unskilled labor. Looking at these facts from another angle, it is found that 50 per cent of the families of skilled workers visited had received charitable aid, and 58 per cent of the families of the men who had done work classed as unskilled. The similarity of these percentages indicates

the stress in which the families of higher- as well as of lower-grade workers had found themselves when employment ceased.

The information regarding length of time between loss of work and application for charitable aid showed practically the same situation in the cases of skilled and of unskilled workers.

### Relation of aid received to total resources.

For only 65 families in the two cities was it possible to secure apparently adequate data regarding the relation between the amount of charitable aid and their total resources. The findings, expressed in percentages, were as follows:

Relation of charitable aid to total resources.	Number of families.
Total.....	65
Less than 5 per cent.....	20
5-9 per cent.....	12
10-14 per cent.....	13
15-19 per cent.....	8
20-24 per cent.....	5
25-29 per cent.....	2
30-39 per cent.....	4
65 per cent.....	1

For half these families charitable aid formed more than a tenth of their total resources during the entire unemployment period. This implies, of course, that during a part of the period considerably greater proportions of their maintenance were received from public or private relief agencies. A later section of this report discusses charitable aid from the point of approach of the relief agency and the general relief problem resulting from widespread unemployment. The present analysis based on two representative groups of families affected by unemployment is the more valuable as showing the effect of loss of work on families previously having an income adequate to maintain a good standard of living.

Illustrations of families that had been compelled to seek charitable aid are included among those given in the preceding sections. When the man could not find work, the usual steps in reaching the stage of dependency were: First, the use of savings or the employment of mother or children when it was possible for them to get work; second, securing loans or credit; third, applying for charitable aid when aid from relatives and other resources had been exhausted.

DETAILED TABLE D.—Families receiving charitable aid during unemployment of father.<sup>1</sup>

Sched- ule num- ber.	Num- ber of chil- dren.	Age of each child (years).	Father's previous occupation.	Income for year previous to un- employ- ment.	Duration of un- employ- ment (months).	Charitable aid.		Other resources during the unemployment period.					Total amount includ- ing char- itable aid.
						Duration of aid.	Relation to total receipts (per cent).	Father's earnings.	Mother's earnings.	Chil- dren's earnings.	Income from boarders and lodgers.	Sav- ings.	Debts.
17	3	8, 10, 13.	Machinist.....	\$2,021	15	3 mos., 28 das.....	11.3	\$33			\$196	\$200	\$42
21	5	4, 7, 9, 11, 14.	Tinner.....	2,000	20	1 yr., 2 das.....	25.3	325					298
26	5	1, 4, 10, 12.	Laborer.....	1,000	14	10 mos., 21 das.....	18.9	36			72	200	505
29	5	1, 3, 5, 7, 8.	Core maker.....	2,341	15	1 yr., 1 da.....	9	116			200	700	450
39	3	1, 3, 5.	Machinist.....	1,500	13	11 mos., 2 das.....	23.9	34	\$4			375	228
40	3	3, 5, do.....	Wood shaper.....	1,700	8	5 mos., 10 das.....	11.5	58				300	687
42	2	3, 5.	Painter.....	1,874	17	7 mos., 7 das.....	6.8	322			149	400	451
49	5	10, 12, 16, 17.	Molder.....	n. r.	13	9 mos., 15 das.....	18.2	51					497
50	5	3, 5, 6, 9, 9.	Laborer.....	1,700	8	6 mos., 20 das.....	15.1	56					359
58	6	1, 4, 6, 8, 9, 11.	Tinner.....	n. r.	15	11 mos., 5 das.....	12.3	40				600	439
59	2	2, 7.	Machinist.....	n. r.	16	11 mos., 19 das.....	5.1	80	5			500	301
62	3	1, 2, 3.	Solderer.....	1,742	15	11 mos., 6 das.....	12.9	177				200	319
63	2	13, 16.	Laborer.....	n. r.	21	11 mos., 5 das.....	10.8	250	60	\$100	484		43
73	5	1, 2, 5, 7, 10.	do.....	n. r.	15	11 mos., 1 da.....	14.3	88	150		168		588
79	3	1, 2, 6.	Mechanic.....	2,000	16	1 yr., 7 das.....	34.0	295					1,160
84	6	1, 4, 6, 8, 10, 12.	Molder.....	2,770	14	5 mos., 13 das.....	19.5	244				300	719
86	3	3, 6, 11.	Bench hand.....	n. r.	18	10 mos., 26 das.....	2.0	192			272		588
88	3	1, 5, 7.	Blacksmith.....	2,568	6	2 mos., 24 das.....	5.9	57					693
91	5	1, 3, 6, 8, 10.	Machinist.....	n. r.	8	2 mos., 12 das.....	19.9	175			80		316
94	4	6, 12, 13, 13.	Metal worker.....	n. r.	8	2 mos., 15 das.....	13.3	119	87	52	42		552
99	3	9, 12, 14.	Laborer.....	n. r.	16	10 mos., 16 das.....	1.2	353			1,000		135
102	4	5, 6, 8, 9.	Sand blaster.....	n. r.	15	1 yr., 1 mo., 12 das.....	19.5	100					12
118	3	1, 3, 5.	Toolmaker.....	n. r.	15	7 mos., 29 das.....	1.3	195	125			150	1,422
125	2	3, 5.	Riveter.....	1,831	17	11 mos., 4 das.....	2.7	32			105		785
126	4	1, 1, 3, 6.	Hand machine.....	n. r.	23	8 mos., 27 das.....	8.2	63					763
136	4	5, 11, 16, 17.	Machinist.....	2,152	13	11 mos., 9 das.....	1.2	459		550	211		137
165	3	1, 2, 4, 5.	Molder.....	1,287	10	4 mos., 26 das.....	16.9	83					232
180	3	1, 7, 8.	Auto mechanic.....	2,000	13	4 mos., 27 das.....	9.3	170					496
184	3	1, 2, 5.	Solderer.....	1,701	12	9 mos., 13 das.....	84	345					329
196	6	2, 3, 8, 9, 15.	Machinist.....	1,000	15	1 yr., 1 mo.....	5.6	581				100	216
203	3	3, 3, 8.	Molder.....	n. r.	17	1 yr., 1 da.....	9.1	351	25				149
205	5	1, 3, 5, 7, 9.	do.....	n. r.	10	11 mos., 29 das.....	11.6	150	128		30		437
208	4	1, 4, 6, 8.	Assembler.....	n. r.	17	11 mos., 14 das.....	17.5	200					779
212	5	2, 7, 9.	Machinist.....	2,253	16	4 mos., 28 das.....	2.3	311					525
215	5	4, 7, 9, 14, 16.	Molder.....	3,400	14	10 mos., 15 das.....	.6	152	95	66	326	125	558
													593
													1,000

<sup>1</sup> Includes only the 49 families in which the amount of charitable aid and the family income during unemployment were reported.

DETAILED TABLE D.—Families receiving charitable aid during unemployment of father—Continued.

Schedule number.	Number of children.	Age of each child (years).	Father's previous occupation.	Income for year previous to unemployment.	Duration of unemployment (months).	Charitable aid.			Other resources during the unemployment period.						Total amount including charitable aid.
						Duration of aid.	Relation to total receipts (per cent).	Total amount.	Father's earnings.	Mother's earnings.	Children's earnings.	Income from boarders and lodgers.	Savings.	Debts.	
217	3	1, 4, 6, .....	Laborer.....	\$1,287	12	9 mos., 26 das.....	9.9	\$61	\$435	.....	.....	.....	.....	\$122	\$618
219	3	1, 3, 5, .....	Welder.....	n. r.	16	11 mos., 4 das.....	5.4	48	270	.....	.....	\$45	.....	524	887
220	5	1, 5, 12, 14, 16.....	do.....	1,864	19	1 yr., 16 das.....	7.4	92	63	.....	.....	.....	.....	387	1,256
223	3	1, 9, 12, .....	Laborer.....	1,380	13	7 mos., 26 das.....	31.9	226	171	.....	.....	.....	.....	311	1,708
231	6	5, 8, 10, 11, 13, 14.....	do.....	n. r.	16	22 das.....	.5	9	1,216	300	.....	.....	.....	188	1,722
243	5	1, 3, 7, 8, 15.....	Factory hand.....	n. r.	13	11 mos., 27 das.....	39.8	269	286	.....	.....	.....	.....	30	525
249	5	7, 10, 13, 16.....	Carpenter.....	2,860	13	1 yr., 21 das.....	9.0	101	638	.....	284	.....	.....	110	1,133
259	5	3, 5, 7, 12, 14.....	Die repairer.....	1,660	14	11 mos., 29 das.....	4.0	47	934	.....	.....	.....	200	.....	1,181
278	4	1, 4, 5, 8, .....	Machinist.....	1,820	14	7 mos., 8 das.....	6.0	72	328	.....	.....	.....	800	.....	1,200
312	5	2, 5, 8, 14, 17.....	do.....	n. r.	9	3 mos., 18 das.....	10.7	93	560	.....	27	126	.....	66	1,872
319	3	3, 4, 6, .....	Carpenter.....	n. r.	3	2 mos., 13 das.....	7.1	16	120	.....	.....	.....	.....	106	236
329	3	10, 14, 16.....	Machinist.....	n. r.	12	5 mos., 28 das.....	18.8	200	436	.....	.....	.....	400	25	1,061
356	2	2, 4, .....	Molder.....	n. r.	14	5 mos., 28 das.....	2.3	13	505	.....	.....	.....	100	.....	618
357	5	2, 4, 9, 10, 11.....	do.....	n. r.	13	1 yr., 8 das.....	2.1	9	76	377	.....	.....	.....	.....	462



## THE COINCIDENCE OF ILLNESS AND UNEMPLOYMENT.

## Extent of illness.

It is obviously impossible to attempt to relate unemployment of the breadwinner and illness in the families as cause and effect, definite as the correlation may seem to be in certain cases, since there is no basis for a comparison of the prevalence of illness in the families of unemployed men with its extent among families in the general population. It is, however, important to call attention to the very considerable proportion of families in which sickness or accidents were added to the misfortunes incident to the father's being out of work. Often the incapacity of the father prevented him from earning something at temporary work or the illness or disability of the mother made it difficult for her to give her family the necessary care.

It is, moreover, evident that families that were using up their savings or were dependent largely on food secured through credit, or were being supplied with necessities by charitable agencies, would frequently deprive themselves of food required to maintain health and strength. Insufficient clothing and lack of fuel, together with the inevitable lowering of sanitary standards through crowding together in order to keep warm, to economize on rent, or to add to the income by letting rooms can not fail to affect the health of the members of the family.

In nearly a fourth of the 366 families the mother had given birth to a child or was expecting confinement during the time the father was unemployed. Coming at a time when the family was deprived of ordinary comforts or was actually suffering for want of proper food, this meant undue worry and hardship for the mother, with greater probability of ill health for both mother and child. Illness or disabilities, including pregnancy or confinement, during the time of unemployment were reported by 231 families—63 per cent of the entire number. These families included 852 children—almost two-thirds of the entire number of children.

The following list gives the number of families in which the various members were ill:

Members of families ill.	Number of families reporting illness.
Total.....	231
Mother.....	52
Father.....	12
One or more children.....	58
Mother and father.....	10
Mother and one or more children.....	64
Father and one or more children.....	11
Mother, father, and one or more children.....	24

The seriousness of the situation is evidenced by the fact that three-fourths of these families reported one or both parents ill, while only

68 per cent of them reported illness among the children. Under ordinary circumstances it would be expected that more families would report illnesses among the children than among the parents, especially since several contagious diseases had been epidemic among children in one of the cities studied.

### Debts for medical care.

Doctors' bills and hospital care comprised a very considerable part of the burden of debts which would continue to oppress these families long after the father resumed work. Judging from the conditions reported by the families, many were going without needed medical attention. Others were receiving medical aid through the companies that had employed the men, from free clinics or dispensaries, charitable societies, or the city poor department. The longer duration of unemployment in Racine is reflected in the information given by the families regarding doctors' bills, and debts for confinement expenses, and hospital care. Although a larger proportion of the Springfield families reported illnesses during the father's unemployment, many of these were apparently not of so serious a nature, or else the families still had sufficient funds to pay the bills. A total of 128 families—more than a third of all the families visited—said that they had outstanding debts for medical service. The amounts of these debts were given by 76 of the 85 Racine families, and by 32 of the 43 families in Springfield. More than a fourth had debts amounting to \$50 or more for the services of doctors, dentists, midwives, and hospitals.

Amount of debt.	Number of families reporting.
Total.....	108
Less than \$50.....	78
\$50, less than \$100.....	16
\$100, less than \$200.....	8
\$200 and over.....	6

The amounts reported by the families in the last group were \$200, \$210, \$272, \$275, \$437, and \$500. Only 1 of the Springfield families reported outstanding debts of \$100 or more, while 13 of the Racine families had the larger amounts.

Seven of the Racine families were in debt to undertakers. The six who stated the amounts of this indebtedness owed from \$22 to \$85 for funeral expenses. The aggregate indebtedness because of illness or death was \$5,772.50 for a total of 108 families.

### Unemployment among families given nursing service.

It was not possible to secure general information regarding the prevalence of unemployment among the families who were receiving medical or nursing care in the two cities. Certain data were, however,

secured from the Visiting Nurses' Association of Springfield concerning 70 families under its care in February, 1922, in which the father was unemployed. These figures are of special interest in connection with infant welfare.

In 53 of the 70 families there was a newborn baby or the mother was expecting confinement. As has been pointed out elsewhere in this report, this situation adds to the handicap of the loss of the father's earnings and the need of relieving the mother of some of her household duties, and interferes with her efforts to increase the family income through her own earnings. It means in every case some added burden of expense, even though the nursing service is provided free. Of the babies born in the city during the entire unemployment period, many who did not come to the attention of the visiting nurses must have been handicapped, even before birth, by the hardships incident upon the loss of a steady family income.

In these 70 families reported by the Visiting Nurses' Association there were 188 children, of whom more than half were under 3 years of age, a fifth were between 3 and 6 years, and only 3 were of possible working age. Two of the 70 families had no children, and in 23 families there was only 1 child. A total of 34 families had 2, 3, or 4 children. In 8 families there were 5 children, 2 families had 7, and in 1 family there were 11.

Almost half of the 70 families had received assistance from a public or private relief agency or other organization. The leading relief society in the city had given aid to 17 families who had not been helped by any other agency, and to 10 others who had received assistance from the city poor department, children's aid or protective societies, churches, dispensaries, and other organizations. The city poor department was the only agency helping 2 families, and was one of the agencies aiding 11 other families.

The foregoing facts are not given as representing a complete report on the prevalence of unemployment among families given nursing care by this organization. The information is necessarily incomplete, because it relates only to the families that the nurses on the staff of the association had visited recently, and about which they were, therefore, informed at the time of the inquiry.

DETAILED TABLE E.—*Families reporting illness during the period of the father's unemployment.*<sup>1</sup>

Schedule No.	Duration of unemployment.	Average monthly resources during unemployment.	Employment of mother.		Number of children.	Age of each child (years).	Illness reported by family.
			Away from home.	At home.			
2	16 mos. 4 das	n. r. <sup>2</sup>	.....	.....	4	1, 3, 5, 7....	Child 5 years, typhoid, scarlet fever, measles; child 7 years, diphtheria, scarlet fever.
10	8 mos. 5 das...	n. r.	.....	.....	4	6, 9, 11, 13..	Child 6 years, pneumonia.
12	12 mos. 23 das..	n. r.	.....	.....	5	2, 4, 6, 7, 8..	Mother sick; child 7 years, always has been weak; child 8 years, sore throat.
18	14 mos. 29 das..	n. r.	.....	.....	5	9 mos., 2, 5, 6, 8.	Father, rheumatism; mother, confinement; child 6 years, pleurisy, pneumonia; child 8 years, scarlet fever.
19	7 mos. 20 das..	n. r.	.....	.....	5	1, 3, 4, 8, 10.	Father, pain in side; child 4 years, fever 105°, blood running out of mouth.
21	20 mos. 2 das..	\$41. 60	.....	.....	5	4, 7, 9, 11, 14	Father, operation; mother, ill "inside and in head"; child 4 years, stomach trouble.
25	14 mos. 1 day..	n. r.	.....	.....	3	10, 14, 16...	Mother, tumor, sick for a long time, died in April, 1921.
27	10 mos. 5 das..	54. 22	.....	.....	2	6, 8. ....	Children 6 and 8 years, scarlet fever, city nurses, 6 weeks (no doctor).
31	14 mos. 19 das..	n. r.	.....	.....	5	2, 4, 9, 10, 12	Child 9 years, tonsils removed; child 10 years, diphtheria, tonsils removed; child 12 years, weakly, tonsils removed.
32	13 mos. 26 das.	n. r.	.....	✓	4	1, 3, 5, 6. ....	Mother, womb trouble; child 6 years, rheumatism.
33	14 mos. 9 das..	n. r.	.....	.....	5	7, 8, 10, 12, 16.	Father, cut his hand; mother, stomach trouble; child 12 years, bad cough and colds.
34	11 mos. 10 das..	n. r.	.....	.....	5	4, 6, 8, 11, 16, 16.	Child 6 years, mumps; children 4, 8, and 11 years, scarlet fever (no doctor).
36	15 mos. 24 das..	n. r.	✓	.....	3	2, 4, 6. ....	Father, in hospital (illness not given); mother, pleurisy.
37	12 mos. 9 das...	n. r.	.....	.....	3	4 mos., 4, 6.	Father, kidney trouble; mother confinement; child 6 years, scarlet fever.
38	13 mos. 28 das..	n. r.	.....	.....	2	11 mos., 7..	Mother, confinement; child 11 months, ill; child 7 years, diseased tonsils, undernourished.
39	13 mos. 5 das...	63. 00	✓	.....	3	1, 3, 5. ....	Mother, nervous breakdown; child 3 years, diphtheria.
40	8 mos. 5 das...	83. 84	.....	.....	3	1, 3, 5. ....	Mother, pregnant; child 5 years, hurt head.
41	11 mos. 10 das..	n. r.	.....	.....	3	2 mos., 2, 4	Mother, confinement; child 4 years, scarlet fever and diseased tonsils.
43	17 mos. 5 das...	50. 46	.....	.....	2	10, 10. ....	Mother, influenza twice, ill now (stomach, throat, nose, and head).
44	12 mos. 26 das.	n. r.	.....	.....	7	2, 4, 6, 9, 11, 13, 14.	Mother, confinement (baby died); child 4 years, colds.
50	8 mos. 2 das...	60. 63	.....	.....	5	3, 5, 6, 9, 9..	Mother, operation; child 5 years, chills and fever; children 6 and 9 years, scarlet fever; whole family has had colds.
52	19 mos. 8 das...	268. 09	.....	.....	3	10, 13, 15...	Father, rheumatism; mother, operation, died June, 1921.
53	17 mos. 3 das..	n. r.	✓	.....	3	4, 5, 8. ....	Child 4 years, pneumonia.
56	14 mos. 8 das..	44. 11	.....	.....	3	6, 8, 10. ....	Father, blood poisoning; mother, "sick inside"; children 6 and 8 years, tonsillitis.
58	15 mos. 5 das..	81. 09	.....	.....	6	5 mos, 4, 6, 8, 9, 11.	Mother, confinement; all the children had scarlet fever and diphtheria; child, age n. r., died; child 8 years, measles.
59	16 mos. 9 das..	60. 54	✓	.....	2	2, 7. ....	Father, stomach trouble; child 7 years, scarlet fever, tonsillitis.
60	10 mos. 5 das..	54. 19	.....	.....	3	2, 4, 5. ....	Father, tubercular; mother, scarlet fever and diphtheria; child 4 years, scarlet fever and diphtheria.
62	15 mos. 11 das..	52. 00	.....	.....	3	1, 2, 3. ....	Father and mother and all children had "itch"; mother, confinement; child 1 year, boils, undernourished.
63	21 mos. 9 das...	49. 35	✓	.....	2	13, 16. ....	Father, influenza and rheumatism; mother, stomach trouble, swollen foot; child 13 years, undernourished.
64	13 mos. 5 das..	69. 56	.....	.....	2	2, 4. ....	Children 2 and 4 years, scarlet fever.

<sup>1</sup> Includes only a partial list of the families reporting illness.<sup>2</sup> N. r. signifies not reported.

DETAILED TABLE E.—Families reporting illness during the period of the father's unemployment—Continued.

Schedule No.	Duration of unemployment.	Average monthly resources during unemployment.	Employment of mother.		Number of children.	Age of each child (years).	Illness reported by family.
			Away from home.	At home.			
66	n. r. ....	n. r.	✓	.....	8	4 mos., 2, 4, 6, 8, 10, 12, 14.	Mother, confinement; child 4 years, ill; child 4 months, undernourished, sick since born; all children pale and emaciated.
67	14 mos. 10 das ..	n. r.	.....	.....	3	7, 9, 14...	Father, rheumatism; mother, operation needed.
69	8 mos. 22 das ..	\$50.00	✓	.....	3	2, 4, 5....	Mother, operation.
74	18 mos. 7 das ..	120.36	✓	✓	3	5, 14, 17...	Mother, overwork after operation.
78	14 mos. 19 das ..	79.33	✓	✓	5	5 mos., 2, 2, 5, 7, 10.	Mother, confinement; children 10, 7, 5, 2 years, all mumps; child 2 years, eczema.
79	16 mos. ....	44.96	.....	.....	3	10 mos., 2, 6.	Father, bad cold; mother, poor teeth, pregnant during unemployment, has had two operations; children, 10 months, 2, 6 years, bad colds.
82	15 mos. 15 das ..	84.05	.....	.....	3	2, 4, 7....	Father, stomach operation, rupture; mother, operation, diphtheria, sleeping sickness.
84	13 mos. 21 das ..	103.28	.....	.....	6	6 mos., 4, 6, 8, 10, 12.	Mother, confinement, heart trouble and rheumatism; child 12 years, heart trouble.
87	10 mos. 25 das ..	n. r.	.....	.....	2	4, 7....	Mother, confinement (baby died).
88	5 mos. 26 das ..	67.80	.....	.....	3	1, 5, 7....	Mother, needs operation; child 1 year, convulsions.
90	8 mos. 3 das ...	72.84	.....	.....	2	1, 2....	Father, bad colds; mother, miscarriage all children, colds.
95	9 mos. 29 das ..	n. r.	✓	.....	3	7, 9, 11....	Father, inflammatory rheumatism; mother, kidney trouble; child 11 years, leakage of heart; all children, whooping cough.
100	13 mos. 18 das ..	n. r.	✓	.....	3	2, 6, 9....	Mother, premature birth, operation later; child 2 years, tonsils removed; all children, bad colds.
102	15 mos. 1 day ..	94.63	.....	.....	4	5, 6, 8, 9...	Mother, rheumatism; child 5 years, whooping cough.
105	13 mos. 10 das ..	n. r.	.....	.....	5	8 mos., 2, 6, 10, 12.	Mother, confinement; child 12 years, diseased tonsils, threatened with tuberculosis; child 2 years, abscess on eye, children 2 years and 8 months, undernourished.
106	16 mos. 17 das ..	n. r.	.....	.....	2	2, 6....	Child 6 years, whooping cough; child 2 years, pneumonia, whooping cough, and bad cold.
108	16 mos. 25 das ..	n. r.	.....	.....	2	9, 10....	Mother, nervousness; child 10 years, diphtheria.
112	14 mos. 24 das ..	40.06	.....	.....	3	1, 3, 6....	Mother, rheumatism, goiter, nervousness.
118	14 mos. 28 das ..	85.16	✓	.....	3	1, 3, 5....	Mother, confinement; child 5 years, nervous, rundown; children 5, 3, 1 years, bad colds.
120	13 mos. 8 das ..	n. r.	.....	.....	3	9, 10, 17...	Children 17 and 10 years, scarlet fever.
121	15 mos. 3 das ..	n. r.	.....	.....	6	1, 4, 8, 10, 15, 17.	Child 8 years, pneumonia; child 4 years, bad cold.
122	8 mos. 15 das ..	n. r.	.....	.....	3	3, 4, 7....	Children 3, 4, 7 years, scarlet fever.
123	11 mos. 25 das ..	n. r.	.....	.....	6	3 mos., 3 mos., 2, 4, 6, 7.	Mother, had nervous breakdown after birth of twins.
129	8 mos. 19 das ..	n. r.	.....	.....	6	1, 5, 7, 10, 11, 12.	Child 11 years, diphtheria.
135	12 mos. 26 das ..	n. r.	.....	.....	3	10, 12, 14.	Child 10 years, scarlet fever in hospital.
142	16 mos. 6 das ..	n. r.	.....	✓	3	10 mos. 6, 11.	Mother, confinement, operation for appendicitis.
143	13 mos. 22 das ..	n. r.	.....	.....	3	1, 3, 6....	Mother, not well, has had city doctor several times.
145	9 mos. 19 das ..	35.11	.....	.....	3	6 mos., 3, 5.	Father, has mastoid trouble.
46	13 mos. 19 das ..	n. r.	.....	.....	6	9 mos., 2, 7, 8, 13, 15.	Father, rheumatism; mother, confinement.
150	13 mos. 22 das ..	n. r.	✓	.....	2	2, 4....	Child 4 years, ear trouble, should have treatment.
152	12 mos. 20 das ..	52.73	.....	.....	3	2, 11, 13...	Mother, sprained arm; child 11 years, diphtheria; child 2 years, influenza.

DETAILED TABLE E.—*Families reporting illness during the period of the father's unemployment—Continued.*

Schedule No.	Duration of unemployment.	Average monthly resources during unemployment.	Employment of mother.		Number of children.	Age of each child (years).	Illness reported by family.
			Away from home.	At home.			
156	6 mos. 21 das..	n. r.	.....	.....	5	1, 3, 7, 9, 11.	Mother, pregnant; child 3 years, put her eye out; whole family quarantined for scarlet fever.
161	6 mos. 21 das..	n. r.	.....	.....	6	1, 9, 12, 13, 15, 17.	Children 17 and 1 years, influenza.
164	12 mos. 20 das..	n. r.	.....	.....	5	4, 11, 13, 15, 16.	Child 16 years, operation.
169	14 mos. 16 das..	n. r.	.....	.....	2	6, 9.....	Child 9 years, whooping cough; child 6 years, pneumonia.
173	15 mos. 9 das..	n. r.	.....	.....	3	1, 6, 9.....	Child 6 years, scarlet fever.
174	15 mos. 8 das..	n. r.	✓	.....	2	3, 4.....	Mother, operation; child 4 years, subnormal and "fits"; child 3 years, tonsils and adenoids removed.
179	12 mos. 16 das..	\$83. 48	.....	.....	4	8 mos. 4, 6, 8.	Mother, confinement; child 8 years, broke arm; child 6 years, cut blood vessel.
180	12 mos. 24 das..	37. 48	.....	.....	3	9 mos., 7, 8.	Mother, confinement; child 7 years, tonsils and adenoids removed.
182	13 mos. 19 das..	n. r.	.....	.....	2	12, 16.....	Mother, rheumatism; child 12 years, diphtheria.
186	14 mos. 3 das..	n. r.	.....	.....	3	4, 9, 14.....	Child 9 years, influenza.
187	15 mos.....	52. 14	✓	.....	3	7, 9, 12.....	Father, pneumonia; mother, general breakdown.
190	12 mos. 21 das..	123. 29	.....	.....	8	1, 3, 6, 9, 11, 13, 15, 17.	Mother, rheumatism; child 6 years, diphtheria; child 9 years, scarlet fever
194	12 mos. 24 das..	n. r.	.....	.....	4	4, 7, 12, 14.	Father, operation; mother, appendicitis, miscarriage.
195	9 mos.....	n. r.	.....	✓	4	9 mos., 7, 9, 11.	Child 4 years, kidney trouble, died August, 1921.
196	14 mos. 28 das..	76. 80	✓	.....	6	2, 3, 8, 8, 9, 15.	Children 3 and 2 years, diphtheria; child 15 years, tonsillitis.
198	16 mos.....	n. r.	.....	.....	3	1, 5, 6.....	Father, diphtheria; mother, confinement, blood poison, influenza, leakage of heart; child 1 year, bronchitis; all children, diphtheria.
203	17 mos. 10 das..	70. 94	✓	.....	3	3, 5, 8.....	Child 3 years, scarlet fever.
205	10 mos. 10 das..	79. 63	.....	.....	5	9 mos., 3, 5, 7, 9.	Father, strained back while at work, in hospital.
209	12 mos. 23 das..	157. 34	.....	.....	6	1, 4, 5, 7, 9, 12.	Mother, operation.
212	16 mos. 2 das..	56. 77	✓	.....	1	7.....	Mother, general health not good, complication following influenza.
213	13 mos. 2 das..	n. r.	.....	.....	4	4, 7, 11, 14.	Father, grippe; mother, sore knee; child 11 years, scarlet fever.
214	17 mos. 18 das..	n. r.	.....	.....	3	5, 6, 8.....	Mother, operation; child 5 years, tonsils and adenoids removed, epileptic; child 6 years, mumps.
216	15 mos. 3 das..	n. r.	.....	✓	5	6, 10, 13, 14, 16.	Mother, not very strong, open sore on ankle resulting from operation 2 years ago.
217	12 mos. 15 das..	49. 49	.....	.....	3	5 mos., 4, 6.	Children, 4 and 6 years, scarlet fever.
218	7 mos. 20 das..	n. r.	.....	.....	5	1, 4, 7, 10, 12.	Child 4 years, diphtheria and pneumonia; child 1 year, broken leg.
220	19 mos. 6 das..	65. 46	✓	.....	5	1, 5, 12, 14, 15.	Father, leg broken and foot crushed, run over by auto; mother, confinement.
227	13 mos. 5 das..	n. r.	.....	.....	4	3, 5, 9, 13..	Child 13 years, tuberculosis of bone, leg in a cast; all children, scarlet fever and diphtheria.
228	15 mos. 5 das..	n. r.	✓	.....	5	1, 4, 9, 11, 13.	Child 4 years, rheumatism.
229	15 mos. 12 das..	119. 71	✓	.....	2	8, 10.....	Child 8 years, diphtheria.
230	16 mos. 11 das..	n. r.	✓	.....	4	1, 5, 7, 10..	Father, operation for rupture; child 1 year, diphtheria and mumps.
231	15 mos. 23 das..	109. 29	✓	.....	6	5, 8, 10, 11, 13, 14.	Mother, colds and backache; children 11 and 13 years, diphtheria.
232	n. r.....	n. r.	✓	.....	2	2, 4.....	Child 2 years, infantile paralysis; child, age n. r. died, stomach trouble.
233	6 mos. 17 das..	n. r.	✓	.....	4	2, 6, 9, 12..	Mother, "run down"; child 9 years, mumps.
239	1 yr. 4 mos. 1 da	n. r.	✓	.....	6	3, 7, 8, 10, 12, 13.	Father, rheumatism; mother, miscarriage, nervousness.

LED TABLE E.—Families reporting illness during the period of the father's unemployment—Continued.

Duration of unemployment.	Average monthly resources during unemployment.	Employment of mother.		Number of children.	Age of each child (years).	Illness reported by family.
		Away from home.	At home.			
9 mos. 9 das. . .	n. r.	✓	.....	4	4, 8, 10, 12.	Father, nervous indigestion "attacks"; mother, two operations; child 12 years, pneumonia.
10 mos. 10 das. . .	n. r.	.....	.....	5	3 mos., 1, 3, 5, 6.	Father, auto accident; mother, confinement; child 1 year, grippe.
1 yr. 7 mos. 12 das. . .	\$53.70	✓	✓	2	7, 11.....	Mother, breakdown on account of hard work and worry.
6 mos. 23 das. . .	41.10	✓	✓	2	7, 9.....	Father, breakdown; mother, nervous, operation; child 9 years, operation.
10 mos. 20 das. . .	n. r.	.....	.....	4	7, 11, 12, 16	Mother, operation.
1 yr. 1 mo. 27 das. . .	84.99	.....	.....	5	3, 5, 7, 12, 14.	Child 14 years, infected tonsils; child 12 years, heart trouble.
1 yr. 4 mos. 6 das. . .	n. r.	✓	.....	5	11 mos., 1, 3, 7, 14.	Father, blood poisoning; mother, confinement; child 3 years, eye and face cut; child 1 year, hand crushed.
2 yrs. 1 mo. 6 das. . .	n. r.	✓	.....	2	1, 2.....	Child 2 years, spinal trouble.
1 yr. 4 mos. 6 das. . .	n. r.	✓	.....	2	7 mos., 2.	Mother, confinement; child 2 years, tonsillitis.
1 yr. n. r. mos. — das. . .	n. r.	✓	.....	4	2, 7, 9, 15.	Mother, nervous trouble; child 7 years, ptomaine poisoning; child 9 years, stomach trouble.
8 mos. 9 das. . .	n. r.	✓	.....	3	8, 10, 12. . .	Mother, worn out; child 8 years, eye trouble; children 10 and 12 years, undernourished.
1 yr. 10 das. . .	n. r.	✓	.....	2	3, 5.....	Child 5 years, tonsillectomy and colds; child 3 years, colds.
1 yr. 7 mos. 6 das. . .	n. r.	✓	.....	4	3, 6, 12, 13.	Mother, "run down"; child 12 years, anaemic; child 13 years, gland operation.
8 mos. 8 das. . .	46.14	✓	.....	4	6, 9, 10, 13.	Mother, grippe and general breakdown.
6 mos. 23 das. . .	n. r.	.....	.....	3	1, 4, 5. . .	Mother, ear trouble; children 4 and 5 years, ear trouble; child 4 years, teeth infected; child 5 years, tonsillectomy.
4 mos. . . . .	n. r.	✓	.....	2	21 das., 2.	Mother, confinement; child 2 years, pneumonia and convulsions.
1 yr. 1 mo. 29 das. . .	85.93	.....	.....	4	1, 4, 5, 8. . .	Mother, pregnant; children 1, 5, 8 years, chicken pox.
1 yr. 2 mos. 24 das. . .	n. r.	.....	.....	7	4, 7, 8, 12, 13, 16, 17.	All children had influenza.
9 mos. 19 das. . .	.....	.....	.....	2	1, 12.....	Mother, grippe; child 12 years, tonsillectomy.
6 mos. 13 das. . .	.....	.....	✓	7	2, 5, 7, 9, 10, 12, 14	Father and children 9 and 10 years, influenza; child 5 years, burned arm severely.
1 yr. 1 mo. 15 das. . .	n. r.	.....	✓	6	5, 7, 9, 12, 15, 17.	Mother, operation for cancer.
1 yr. 3 mos. 18 das. . .	n. r.	✓	.....	2	10, 15. . .	Mother, ill; child 15 years, in hospital.
1 yr. 2 mos. — das. . .	n. r.	.....	.....	4	7, 9, 12, 14.	Father, rheumatism (can not work regularly); child 14 years, operation on head.
6 mos. 20 das. . .	n. r.	✓	.....	5	9, 12, 13, 15, 16.	Child 12 years, has been ill, in open-air school now; child 15 years, not well.
8 mos. 23 das. . .	n. r.	.....	.....	4	3, 5, 8, 11. . .	Father, pneumonia.
1 yr. 1 mo. 18 das. . .	n. r.	.....	.....	4	6, 9, 10, 13.	Mother, neuritis; child 6 years, cold; children 9 and 13 years, tonsils and adenoids removed.
1 yr. 2 mos. 21 das. . .	n. r.	.....	✓	5	3, 5, 7, 9, 10.	Mother, run down because of overwork; child 7 years, tonsillitis; child 9 years, tuberculosis of the hip.
1 yr. 22 das. . .	46.53	.....	.....	3	3, 5, 8. . .	Child 3 years, pneumonia.
6 mos. 28 das. . .	n. r.	.....	.....	2	7, 10.....	Child 7 years, intestinal trouble.
1 yr. 1 mo. 22 das. . .	78.28	.....	.....	2	9 mos., 1.	Mother, confinement, pregnant again; child 1 year, mumps.
9 mos. 25 das. . .	50.86	.....	.....	3	7, 14, 16. . .	Mother, threatened with tuberculosis; child 7 years, diphtheria and cold; child 16 years, cold.
9 mos. 25 das. . .	101.69	.....	.....	4	4, 6, 8, 10. . .	Child 4 years, pneumonia; child 6 years tonsils removed, kidney trouble.
10 mos. 25 das. . .	n. r.	.....	.....	5	6, 8, 11, 14, 15.	Mother, heart trouble; child 11 years, pain in side due to fall; child 14 years, results of being struck by auto.

DETAILED TABLE E.—*Families reporting illness during the period of the father's unemployment—Continued.*

Schedule No.	Duration of unemployment.	Average monthly resources during unemployment.	Employment of mother.		Number of children.	Age of each child (years).	Illness reported by family.
			Away from home.	At home.			
345	1 yr. 3 mos. 1 da.	n. r.	✓	.....	4	6, 9, 15, 16..	Father, appendicitis; mother, "run down"; children 6 and 9 years, tonsils removed; child 16 years threatened with tuberculosis.
346	1 year. 5 mos. 3 das.	106.20	.....	.....	6	2 das., 2, 4, 6, 7, 10.	Mother, confinement; child 4 years, tonsillitis; child 7 years, nasal diphtheria.
347	1 yr. 2 mos. 6 das.	111.94	.....	.....	8	2, 4, 6, 8, 11, 13, 15, 16.	Father, strained back; child 2 years, pneumonia; child 13 years, crippled from infantile paralysis; child 15 years, appendicitis; child 16 years, blind in one eye.
351	1 yr. 1 mos. 6 das.	n. r.	.....	.....	5	4, 6, 8, 11, 12.	Father, ulcers of the stomach; mother, pregnant; child 12 years, kidney trouble.
354	1 yr. 6 mos. 9 das.	n. r.	.....	.....	6	2, 4, 6, 8, 13, 15.	Father, grippe; mother, abscess under arm, grippe; children 2, 4, 6, 8, 13 years, grippe; child 18 years, pneumonia.
358	2 yrs. 8 das....	65.76	.....	.....	3	4, 7, 8.....	Mother, "not strong"; child 4 years, boils, tonsils removed.
361	7 mos. 12 das..	62.70	.....	.....	2	4, 7.....	Child 4 years, diphtheria; child 7 years, heart trouble.
365	1 yr. 2 mos. 16 das.	205.03	.....	.....	2	9, 15.....	Father, malaria; mother, Bright's disease (died); child 15 years, nervousness and leakage of heart.
366	2 yrs. 29 das...	n. r.	✓	✓	2	1, 7.....	Father, effects of being gassed in war; mother, weak and nervous; child 1 year, undernourished; child 7 years, undernourished and needs glasses.
367	1 mo. 29 das...	n. r.	✓	.....	2	4, 10.....	Mother, confinement (child died).

### Families handicapped by illness.

The many factors interrelated with illness in the families of unemployed men—whether as cause, effect, or merely occurring coincidentally—are best shown in illustrations such as the following.

The father of five children, ranging in age from 1 to 11 years, was born in England 35 years ago, has been in America 19 years and has taken out his citizenship papers. The mother is American born. They live in a respectable residential section of the city. The house needs painting, but otherwise is in good repair; it has furnace heat and gas. It is well furnished. There is a yard of good size in the rear.

The father was a machinist in a shoe factory and earned about \$140 a month. In June, 1921, he injured his hand with a needle; blood poisoning set in, and when he was well several weeks later he could not get work. Since then he has earned only \$30 at irregular work. Besides the father's accident the family has had a great deal of illness and misfortune. Last September the 3-year-old girl lost the sight of one eye as the result of a fall. The whole family has just come out of six weeks' quarantine for scarlet fever. The father had temporary work at the time the children were taken ill and had



to give up his job. The mother is pregnant and expects confinement in February, and is feeling so miserable that she has to spend most of her time in bed. The mother says every time the children go out they contract colds, and she attributes this to undernourishment. They have never had much sickness in the family before.

The mother would like to give the children milk but can not afford it. She used to buy 2 quarts daily but now buys none, and the children are not given milk at school. The family has eaten more bread and sirup the last six months than ever before—to make up for the lack of other things. The mother says they have had no new clothes, but that she has done her best to make over everything in the house. She has even taken her last petticoat to make a dress for the oldest girl; she does not need it, as she spends most of her time in bed. The family is deeply in debt. They owe one doctor a bill of \$60, and the specialist who operated on the little girl's eye, \$150; also \$80 to a grocer, and a large amount to the city for rent and groceries. They have had to drop all their insurance policies—\$1,500 for the father, \$350 for the mother, and small industrial policies costing 10 cents a month for the children.

A young Irish couple has been unable to keep up the payments on the insurance policies which both had been carrying, and this has meant the loss of a large part of the \$141.44 already paid in. During the year's unemployment of the father, they have also gone into debt for food and medical attendance to the amount of \$88. The father has secured temporary jobs amounting to something over two months' time, and the mother for six months sewed in the alteration room of a department store, earning \$15 weekly. The two little girls of 5 and 3 years were left in the care of the father when he was at home, and at other times with a neighbor. The mother is not now working, and the \$12 a week which the father is earning at city work represents the entire income. The elder child has had her tonsils removed during the year, and both children have suffered much with colds. Not able to afford coal to heat all of their four-room apartment, the family is living in the kitchen and one bedroom. The children are drinking large quantities of tea, because the parents can not afford to buy milk.

In a Slavic family consisting of a father, two sons of 10 and 16, and two daughters of 14 and 18 years, the mother died nine months ago, after a lingering illness. The father is a blacksmith's helper and had been a steady worker, the mother had been economical, and the family had managed to save \$1,200 by the time the father lost his job. During the 14 months he has been out of work he has earned just \$88.90. The 16-year-old boy earned \$30 on a farm last summer, the oldest girl worked two weeks making about \$7.50 a

week, and the rent of the second floor had brought them \$180, making a total of \$313 since the period of unemployment began. The doctor came every day during the last two or three months of the mother's illness, charging \$3 a visit. This bill has all been paid except \$15 or \$20, and also the funeral expenses, which came to \$500. These bills, plus expenditures for food and clothing, have eaten up every cent of their savings.

The 18-year-old daughter has been keeping house since her mother's death. Just two weeks before the agent's visit she had obtained work in a shirt factory, to earn money enough for clothes for herself. The house seemed beautifully kept, but the father thought it was too hard for her to work and to keep house too.

The 16-year-old boy has finished the eighth grade and is now going to a business college. It means a real sacrifice for the family, for it costs \$150 a year, but the father will not let him stop. He says that if the boy has an education he can get a job anywhere, and he will be able to help him—the father—in later years; but if he doesn't get an education he will never be able to get along in life. The father is very much interested in helping his children to get ahead and become respected citizens. The rent from the second floor is being used for the boy's schooling.

A team driver lost his place in the late summer of 1921 because of lack of work. There are seven children in the family, about two years apart, the youngest a child not a month old and the oldest 13 years of age. The father is rapidly losing his eyesight. The city had given him employment for three weeks, and then laid him off because he could not see well enough to perform even the unskilled job of a laborer. This family of nine is living in four undesirable rooms, almost unfurnished; rags were stuffed in the broken windows.

Living in an apartment of four rooms on the first floor of a two-story frame house is a family of eight. The father is a native-born American, 31 years of age, the mother a frail-looking woman of 30, a Hollander. Of the six children the youngest are twin girls 3 months old and the oldest is a boy of 7. The house is in a fairly good residence neighborhood, and is comfortably furnished. A large basket of clothes stands ready to be ironed. The home and the babies are kept spotlessly clean, for the mother says "I just have to have things clean even though it takes all my strength."

When working the father earned about \$130 a month as a core maker, but because his family was large he could save very little. Consequently, less than a month after he lost his job he was forced to ask aid from the relief society. He has now been out of steady work about a year, during which time he has worked very irregularly on a bridge that is under construction. He has a horror of debt, so

with the exception of a \$57 grocery bill, which the family was obliged to run last summer when he could find nothing whatever to do, he has paid cash for everything, going without whenever there is no money on hand. The mother says they live on bread, jam, and potatoes most of the time. The children often go to their grandmother's across the street, because there is nothing in the house to eat. The mother is grateful for the help already given. For two months after the twins were born a class of young girls at the church sent 2 quarts of milk a day, but now the family is taking only a pint or two and the mother adds hot water to make it enough for the children's oatmeal.

The mother's pregnancy has complicated the situation, for during the months when she specially needed good food, rest, and freedom from worry she was forced to work very hard under a severe nervous strain and with little to eat. Just prior to her confinement in October she broke down completely from undernourishment and worry, and after the twins were born she was weak and nervous and generally wretched. The other grandmother has taken the 4-year-old girl home with her to Michigan because the mother is not well enough to care for so many children.

The family had paid \$50 on a lot they were buying, but were forced to sell for \$20 because they were unable to keep up the payments. The father has also had to give up his membership and insurance in a lodge to which he had belonged since he was a boy. The grocery bill and a doctor's bill of between \$75 and \$100 are worrying the family considerably.

In another family the father had tried to do city work for two weeks but had broken down because he was not used to outdoor labor. There were three children—1, 5, and 8 years of age. The pregnant mother had to stop her work, and the family was at the end of its resources when the 8-year-old son was run over by an automobile. The owner of the car offered to pay the parents \$125 to settle the case out of court and thereby relieve himself of all further responsibility in the matter. The parents were more than willing to accept the money. The boy's front teeth were knocked out, and two teeth had been driven into his jaw, causing great pain. His collar bone also was broken. He was attended by the family doctor because he was "cheaper than down-town doctors." He charged only \$15, and the mother explained that they were "\$110 clear" on the boy's accident. The \$110 was used immediately for family living expenses. The injured boy was unable to eat solid food on account of the condition of his mouth. His mother said he cried from hunger, but she could afford to buy him very little of the two things that he could eat with any degree of comfort—milk and eggs; he finally had to

eat food that hurt his mouth. He has "picked up a little," but the school has sent home word that he is still 10 pounds under weight. The "\$110 clear" tided the family over a few weeks until the father began to get a little money from odd jobs.

In order that her children might look as well in school and at work as the other children of the neighborhood, one mother has not hesitated to add to her other heavy tasks the making of clothing for all seven of them, even their stockings, and hats for the girls. There were five girls, 7, 8, 13, 16, and 17 years of age, and two boys, 4 and 12 years of age. An uncle lives with the family as a boarder. The eldest girl is working, and the second helps an aunt most of the time when she is not in school, so the mother does all the work necessary in a household of 10 persons. Her burdens were still further increased when the children all had the influenza during the first winter after the father lost his steady employment. Perhaps the family epidemic of influenza may be partly accounted for by the fact that during that winter less than a ton of coal was used, oil stoves serving, on occasion, to heat their eight-room home. They had been making payments on this house for five years, but after the father lost his work it became very difficult to meet taxes and interest. Last year the uncle helped, but this year the mother feels there will be no way of meeting the \$88 tax bill which will fall due in a few days.

A Russian-Polish family has been living in the same house for seven years. They have been buying it by monthly payments which include interest and a small amount of the principal. They occupy the lower part of the house and receive \$18 a month for the second floor. The father, a man of 37 years, can speak English but can not read. Although he has been in the United States since he was 21 and has lived in this city for the last 12 years he has never applied for citizenship papers. He and his wife have been industrious and thrifty, for in addition to the payments on the house they had saved \$1,000, although there are six children from 1 to 12 years of age.

The works in which the father was employed as a molder were shut down a little over a year ago. With their savings, the rent the family received from their tenants, and the father's earnings at temporary work (though this has amounted to less than \$300 in the year), it would seem as if the condition of this family should not have been desperate. But the mother was ill and had to have an operation, and during the nine months of her illness all of the \$1,000 was absorbed in paying the hospital and doctors and druggists, leaving a bill of \$38 still unpaid. So the family, almost wholly deprived of the mother's services and care, began to acquire debts—for payments on the house, insurance, food, gas, a cash loan of \$150, and the medical attendance mentioned—until they now owe \$474.32, and their savings of years are gone.

## UNEMPLOYMENT AND THE RELIEF PROBLEM IN RACINE.

The preceding discussion <sup>15</sup> of the charitable aid given the families selected for visiting shows that over one-half of them had been forced to apply for assistance from public or private relief agencies. More than two-thirds of those who asked for aid did so within half a year after the father was thrown out of work; more than a third of them reached this extremity within three months. It is believed that the information secured from the families visited in the two cities presents a much more just picture of the relation between unemployment and dependency upon relief than can be formed through the records of relief societies since these relate only to groups of dependents. It was, however, deemed of interest to this study to secure information concerning the relief problem, through study of the cases dealt with by public and private relief agencies, those especially in which unemployment was given as the reason for needing aid.

The main relief agencies in Racine were the Central Association, a privately supported organization cooperating with the public agencies and the city poor department. There was also a county poor agent, who gave aid to families having no legal residence in the county, and also to transients. Because of the unusual need, in April, 1921, the city appropriated \$50,000 for the relief of the families of the unemployed. This aid was given through the existing relief agencies.

### THE CITY COMMISSARY.

The city commissary was established in October, 1921. The fund for the commissary was taken from the unexpended balance of the \$50,000 appropriated in April, \$20,000 being added to this amount in January, 1922. One large manufacturing concern had been helping their former employees who needed assistance, through granting them grocery orders as loans. This company donated the use of quarters for the city commissary, and provided light and heat. In turn, they were allowed the use of the city commissary for their families, reimbursing the city fund monthly.

The supplies were given in the form of loans, except that in cases in which repayment seemed impossible free aid might be given. To apply for credit at the commissary the unemployed man had to come to the office of the Central Association or of the city superintendent of the poor. Unless the family was already known, the application

---

<sup>15</sup> See pp. 79 to 84.

was investigated. When it had been approved, the father signed a promissory note to repay the debt at the rate of \$3 each pay day after he secured employment. He was then given an order on the commissary, and checked the articles he desired on a list of staple articles of food and household supplies. The provisions could not be secured until the following day, since a copy of the order had to be sent to the city comptroller, who forwarded it to the commissary. The agencies received from the city comptroller monthly statements for each of the families to whom they had given orders so that a family could at any time find out the amount of its debt. A ledger account for each family was kept at the office of the city comptroller.

Only one order could be secured by a family in a week. The list from which selection was made specified the following items, with limitations as to quantities:

$\frac{1}{2}$ bushel potatoes.	2 pounds onions.
2 pounds butterine.	3 pounds carrots.
2 pounds lard.	3 pounds rutabagas.
$\frac{1}{2}$ pound peanut butter.	3 pounds cabbage.
1 pound coffee.	2 pounds oatmeal.
$\frac{1}{2}$ pound cocoa.	2 pounds cornmeal.
1 pound rice.	2 cakes yeast.
1 pound beans.	$\frac{1}{2}$ pound barley.
1 pound spaghetti.	$\frac{1}{2}$ sack wheat flour.
3 pounds sugar.	$\frac{1}{2}$ sack rye flour.
3 pounds boiling beef.	1 pound prunes.
1 pound salt pork.	1 pound dried apples.
1 can sirup.	1 pound jelly.
1 pound cheese.	1 package pepper.
1 dozen eggs.	5 pounds salt.
1 can tomatoes.	1 can mazola.
1 can peas.	1 package postum.
2 cans condensed milk.	1 pound tea.
1 can evaporated milk.	1 pound crackers.
Vinegar.	Oranges.

Soap and other supplies for washing also could be ordered.

An important item was the issuing of books of milk tickets as a part of the orders for provisions. The commissary list did not specify the number of such books that could be secured. Each book contained a dollar's worth of tickets for 11 quarts of milk.

The following list shows the amount of credit given families of unemployed men through the city commissary during the first three months of its operation:

Amount of loans to January 21, 1922	Number of families aided in 3 months.
Total.....	308
Less than \$5.....	40
\$5, less than \$10.....	63
\$10, less than \$15.....	39

Amount of loans to January 21, 1922.	Number of families aided in 3 months.
\$15, less than \$20.....	34
\$20, less than \$30.....	59
\$30, less than \$40.....	33
\$40, less than \$50.....	21
\$50, less than \$60.....	11
\$60, less than \$70.....	6
\$70, less than \$80.....	2

The total amount of the credit or aid given during the three months was \$6,282.63, averaging \$20.40 per family.

#### RELIEF WORK AND LOANS BY FACTORIES.

One of the largest concerns in Racine—an implement works—employed in normal times between 4,000 and 5,000 men. Early in January, 1922, it had only about 700 men working.

Previous to the establishment of the city commissary this company gave their former employees orders on local grocers. These were in the form of loans, the men signing a promissory note to repay the amount at the rate of \$3 each pay day when they had regular employment. It was stated that if the company found that a man could not pay back at this rate, he would be allowed to pay according to his ability. The only requirement for eligibility to these loans was that the man must have been a former employee in good standing. In all except emergency cases, investigation was made before the loan was granted. With the establishment of the city commissary, arrangements were made to give orders on the commissary for groceries, coal, and underwear, on promissory notes as before. Books of milk tickets were also issued. Each month the company reimbursed the city for the cost of the articles withdrawn. This company collected food prices for each month, and made up budgets, estimated according to the prevailing prices for the month, on which they based their relief work. Information as to the quantities of food and household supplies needed was obtained from the families of the employees.<sup>16</sup> Medical care was given to families by the company doctor. A small number of men had been placed at outside work through the factory's employment office. During the year 1921, about 300 families of former employees were aided with credit for groceries and other necessities.

Another large manufacturing plant granted similar loans to men who had been in the employ of the company for at least six months, and who had not quit of their own accord or been discharged. The procedure here was for the man to apply to the welfare worker for each order, signing an agreement with the company to repay the loan at the rate of \$3 each pay day when he should be taken back to work permanently. Groceries and fuel were obtained in this manner. A

<sup>16</sup> See details of budget, p. 37.

grocery order for a certain amount would be given, to be filled by grocers with whom the company had made agreements for trade. The needs of each family were considered in granting the orders, the family being permitted to select the food. The welfare worker checked up on the items as the bills came in from the stores, and she frequently taught the families how to buy and cook economically. This company did a great deal for their families at Christmas time, sending them food, toys, and Christmas trees. Old clothing was collected and given to those who needed it. The families who received loans from the company were not supposed to receive aid from the public or private relief agencies. Up to the middle of January, 1922, 63 families of former employees had been aided by loans, and 52 had been given clothing.

#### THE CITY POOR OFFICE.

The city superintendent of the poor reported <sup>17</sup> that there had been four times as much need for city aid during the year 1921—the unemployment period—as there had been in the preceding year. In 1920 a total of 84 cases were recorded on the city's books, as against 336 for the year 1921. The 1920 cases included 120 adults and 146 children; in 1921 the numbers were 622 adults and 963 children. It was impossible to secure figures in regard to the number of families aided in each of these years but the comparative number of children reported would seem to indicate that approximately six times as many families with children were given aid during the unemployment year as during the preceding year.

The office of the superintendent of the poor formerly gave grocery orders on local stores, but after the establishment of the city commissary all orders were filled through it. In 1921 the expenditures for groceries totaled \$17,303.21 as compared with \$2,952.25 for the preceding year; the rent item (\$5,792.60) was almost six times as large as for 1920. Other expenditures were: Fuel, \$2,169.14; shoes, \$544.55; burials, \$290.50; caring for sick in homes, \$457.78; caring for sick in hospitals, \$1,385.65; miscellaneous, \$392.77. The total expended for aid during the year was \$28,472.50, exclusive of salaries and other expenses of conducting the office. The monthly totals show a definite increase as the unemployment period continued, ranging from \$787.60 in January to more than \$3,000 in May and June, there being a slight decrease in the last two months of the year.

#### THE PRIVATE RELIEF AGENCY.

The largest private relief society in Racine was called the Central Association. In addition to a relief department this organization conducted a day nursery, an employment agency (mainly for women

<sup>17</sup>Racine Journal-News, December 31, 1921.



doing work by the day), and a "Big Sister" department which worked with girls. At the time this study was made the staff of the relief or "family department" included in addition to the superintendent who was in charge of all branches of the work of the association, a visiting housekeeper who also passed upon the recommendations of the visitors in regard to aid to be given; one visitor who did all the investigation and supervision work with families other than unemployment cases; three visitors—two paid and one full-time volunteer—who devoted all their time to work with unemployment cases; and an office staff consisting of one interviewer, one file clerk, and one bookkeeper.

### **Relief to families of unemployed men.**

On January 27, 1921, the Central Association was allotted a special fund of \$25,651.07 from the community "war chest." This fund was disbursed during the four months from February to May, inclusive.

When relief was applied for, if unemployment was not a factor in the situation, the family was given aid from the regular fund of the association. When unemployment was the occasion for the need, the aid was given from the special city fund, through orders on the city commissary, a promissory note for the amount being signed by the applicant. Previous to the establishment of the commissary in October, 1921, books of milk tickets were given out as relief, and "unemployment" families, whenever possible, were given orders on the grocer who had already allowed them credit but refused to extend it further. The association did not grant grocery orders to families until their credit was entirely exhausted, although it might help with fuel and clothing.

When an order for coal was allowed a family, a promissory note was signed by the applicant. The association had paid rent in a few extreme cases, but refrained from doing so as much as possible. Rents paid by it were always in advance. Occasionally a landlord was an applicant for aid, and the association aided him by paying the rent for his tenant. The association reported that it had given out at least 1,000 new garments, 5,000 articles of old clothing during 1921, and 200 layettes. It had also issued orders on local shoe stores for 114 pairs of shoes which were donated by a shoe-manufacturing company. Prescriptions were allowed to all sick people. If the family was one receiving commissary orders, the city doctor was called, the medicine or anything else ordered by the doctor was furnished to the family. Confinement cases were sometimes given free care by the city health department.

Between the latter part of October, 1921, when the commissary was established, and January 7, 1922, 852 commissary orders were

issued by the association to 352 persons. About 20 of these were single men to whom meal tickets were issued; the remainder represented families of unemployed men. It was estimated that about 75 per cent of the men applying for aid because of unemployment were totally unemployed; 25 per cent were partially employed, earning from \$12 to \$15 a week, which was not enough to support their families. Frequently the families of men who had some work managed to buy food, and the association furnished them with clothing and other necessities. Many of the men had earned 50 cents now and then, with which they had paid their gas and light bills. About a fourth of the families had their gas and light shut off because of nonpayment, and many families were burning kerosene for lighting because they could get this on their commissary orders.

### **Increase in the relief problem.**

The annual report of the Central Association for the year November 1, 1920, to November 1, 1921, states that the society aided 2,027 families during the year, 1,642 of whom came to their attention because of the widespread unemployment. Thus, the relief problem dealt with by this society was increased to over five times its usual proportions.

The total amount of relief given through the association during the year was \$30,938.36, which included the \$25,651.07 from the "war chest" fund, which was used, as noted above, during the period extending from the 1st of February through the month of May, 1922. A comparison of the amount expended for relief during this year of serious industrial depression, with the amounts for the four preceding years is shown by the following figures:

July 1, 1916, to June 30, 1917.....	\$718. 41
July 1, 1917, to June 30, 1918.....	1, 450. 19
July 1, 1918, to June 30, 1919.....	2, 125. 60
July 1, 1919, to June 30, 1920 <sup>18</sup> .....	2, 917. 77
Nov. 1, 1920, to Oct. 31, 1921.....	<sup>19</sup> 30, 938. 36

Comparative data in regard to the number of families aided were secured for four years, as follows:

	Families aided.
July 1, 1917, to June 30, 1918.....	391
July 1, 1918, to June 30, 1919.....	387
Nov. 1, 1919, to Oct. 31, 1920.....	441
Nov. 1, 1920, to Oct. 31, 1921.....	2, 027

The above figures show that five times as many families were given aid during the unemployment period as the average during the preceding years, and that the average amount of relief for each family during the unemployment period was about three times as much as in preceding years.

<sup>18</sup> Change in fiscal year. Amount of relief given from July 1, 1920, to Oct. 31, 1920, was \$610.53.

<sup>19</sup> Includes \$25,651.07 from "war chest."

**FAMILIES GIVEN AID BECAUSE OF UNEMPLOYMENT.**

The November, 1921, records of the private relief agency were examined and a cross section study was made of all the families that applied for aid apparently because of the father's unemployment. The total number of such families applying during the month was 179.

The 179 fathers had been employed in 32 different establishments, mainly foundries or factories where farm implements, electrical supplies, automobiles, or rubber products were made.

**Duration of unemployment before applying for aid.**

More than three-fourths of the families (138) were new to the agency and had applied for aid for the first time during this unemployment period. Of these, 54 per cent applied for charitable aid within three months of the time the father was thrown out of work. Of the total 179 families, one-seventh required assistance within a month of the time when the father lost his job. The following list shows these facts in more detail for the families for whom the time was reported, according to whether the family applied for aid for the first time during this unemployment period or was previously known to the society:

Period before application for aid.	New cases receiving aid.	Old cases receiving aid.
Total.....	116	24
Less than 1 month.....	12	8
1-3 months.....	51	10
4-5 months.....	28	3
6 months and over.....	25	3

**Nativity and residence of fathers.**

The greatest contrast appears between the nativity of the fathers of this group and that of the white males 21 years of age and over in the general population of the city. Of the former, 28 per cent were native and 72 per cent foreign born; the corresponding percentages for the general population were 56 and 44.

Only 5 per cent of the 179 fathers were known to have lived in the city during their entire lives, another 5 per cent had lived there for 20 years or longer. None of the families had come to the city within a year, but more than half had been residents for less than 10 years.

Length of father's residence in city.	Per cent distribution.
Total.....	100
Life.....	5
20 years and over.....	5
15-19 years.....	13
10-14 years.....	25
6-9 years.....	23
1-5 years.....	29

**Children in families given aid.**

In 176 of these families there were 595 children under 18 years of age.<sup>20</sup> The following list gives the number of children in each family:

Number of children in family.	Number of families reporting.
Total.....	176
1.....	22
2.....	35
3.....	46
4.....	34
5.....	22
6.....	7
7.....	5
8.....	3
9.....	2

There were more families with three children than with any other number, and the families with one, two, or three children formed 59 per cent of the total.

About one-tenth of the children were under 1 year of age. These families showed a preponderance of children under 7 years of age—56 per cent as compared with the 45 per cent in the general population. The percentages of children from 14 to 17 years of age inclusive were 9 in the group applying to the association and 10 in the general population.

Ages of children.	Number of children in families reporting.
Total.....	595
Under 1 year.....	59
1-6 years.....	271
7-13 years.....	211
14-15 years.....	36
16-17 years.....	15
Not reported.....	3

**Employment of children.**

Only 40 families had children 14 years of age or over. Of the 51 children of working age, only 13, in the same number of families, were working during the time aid was given. Thus, in more than two-thirds of these families, children who might have been employed were presumably unable to find work or were not eligible for working permits because they had not completed the required schooling.

**Illness in the families.**

Of the 179 families, 106 (59 per cent) were reported as having had some serious illness during the period of the father's unemployment. The details in regard to the members of the families who were ill are as follows:

<sup>20</sup> For three families the number and ages of the children were not reported.

Members of families having illness.	Number of families having illness.
Total.....	106
Mother.....	55
Father.....	10
One or more children.....	17
Mother and father.....	6
Mother and one or more children.....	12
Father and one or more children.....	2
Mother, father, and one or more children.....	4

In 63 families, or more than a third of the entire group, the mother was pregnant or confined during the time the father was unemployed. This disability of the mother, added to her special need for medical service and other assistance, was undoubtedly the real occasion for the application for aid in a considerable proportion of these families.

### FREE MILK TO SCHOOL CHILDREN.

In the latter part of 1921, the Women's Civic League raised a special fund for furnishing milk to school children. Each school sent weekly reports to the milk committee of the league, noting the improvements that appeared to have followed the supplying of milk in the case of each child. The children received the milk free or were charged a nominal sum. The teachers decided which children should have the milk free. It was reported that some children who had been paying and were no longer able to do so, frequently discontinued drinking milk because they were too proud to say that they could not afford to buy it. The following list shows that 2,131 children in 14 schools of the city (including one parochial school) were served milk during the week of January 16, 1922, of whom at least 742 (35 per cent) received it free.

School.	Children served milk free.	Children served milk at nominal charge.
Total.....	<sup>21</sup> 742	<sup>21</sup> 1, 106
1.....	70	90
2.....	122	113
3.....	106	104
4.....	27	108
5.....	32	94
6.....	15	.....
7.....	60	.....
9.....	60	115
10.....	.....	<sup>22</sup> 251
11.....	16	28
12.....	127	87
13.....	85	61
14.....	22	55

<sup>21</sup> Total not complete because data not reported from School No. 8.

<sup>22</sup> The principal and the teachers paid for some of these children.

On January 1, 1922, it was necessary to raise the price from 2 cents to 3 cents a day for each child; that same week 287 children discontinued taking it. During the week January 16 to 20, 23,104 half-pints of milk were served to the school children of the city.

#### CHILDREN BROUGHT TO THE DAY NURSERY.

On January 15, 1922, the day nursery conducted by the Central Association was caring for 22 children from eight families in which the mother was working. These represented about half of the total number of children in the day nursery at that time. The attendance at the nursery was not constant, because the mothers were doing work by the day which was not at all regular. In seven of these eight families the mother had not worked prior to the unemployment of the father. The nursery had previously cared for the children of five other families in which the father was unemployed. The reasons given for no longer bringing the children to the nursery were that the father had secured work and the mother stayed home, the mother lost her work and was not able to obtain any other, and in one case the mother died and the children were placed in an orphanage.

The small number of children brought to the day nursery is largely explained by the scarcity of employment for women, and also by the fact that the unemployed fathers often cared for the children at home during the mother's absence. The only day nursery in the city was inaccessible to many families. One working mother walked three miles to place her children in the nursery. The largest numbers of children under care were reported for May and June, 1920, early in the unemployment period, and again for August, September, and October, 1921. The total families and children cared for monthly at this nursery from April, 1920, to January, 1922, are shown in the following list:

Year and month.	Families.	Children.
1920:		
April.....	25	59
May.....	24	51
June.....	24	62
July.....	21	46
August.....	20	49
September.....	21	45
October.....	18	41
November.....	(24)	(24)
December.....	19	41
1921:		
January.....	20	39
February.....	21	45
March.....	18	44

\* Number not reported.

Year and month.	Families.	Children.
1921—Continued.		
April.....	19	44
May.....	19	42
June.....	21	46
July.....	19	52
August.....	20	55
September.....	28	70
October.....	25	58
November.....	22	52
December.....	15	41

### MOTHERS' PENSIONS AND UNEMPLOYMENT.

Unemployment was a factor in increasing the number of mothers applying for and receiving pensions through the juvenile court, which administered this aid in Racine. In August, 1920, there were 85 widows receiving pensions; on December 14, 1921, the number had increased to 132. The court reported for the year ending September 30, 1921, that 136 families, with a total of 337 children, had been aided during the year, the sum expended for this purpose being \$22,696.

Thirty-seven of the women granted pensions during the year had been widowed for five or more years and had been able to support themselves up to the time of applying for aid.

Not only did mothers who were employed outside of the home become dependent through unemployment, but those who were supporting themselves by taking roomers and boarders were deprived of this source of income because the roomers left or were unable to pay their rent.

The following are stories illustrative of the cases of mothers to whom pensions were granted in 1921 because their means of living were cut off through the general unemployment:

Mother with three children. The father had been dead five years. Up to the time of application for a pension in February, 1921, the mother had been able to support herself and the children. She owned her home, but it carried a \$1,200 mortgage. She had previously been able to rent rooms, but because of the unemployment situation in the city, she had not for some time been able to get tenants. The only income she had at the time of application was rent from the downstairs flat. She was granted a pension of \$20 a month.

A mother with two children—aged 7 and 5 years—whose husband had been dead four years, applied for a pension in October, 1921. She had supported herself by working outside of the home and by renting the upper flat of the house which she owned. She had been "laid off" for some time previous to the application for aid, and the

tenants in the upper flat had not been able to pay any rent for five months because the man was out of work. A pension of \$12 a month was granted.

A mother with three children, who had been earning from \$18 to \$22 a week, had been out of work for some time. She was buying her property, had paid \$3,000 on it, but still owed \$1,100. She was given a pension of \$20 a month.

Another mother had supported herself and one child by keeping boarders for the six years since her husband's death. Because of unemployment the boarders had left, and she had not been able to get others or to find outside work for herself. The pension granted was \$15.

No matter how many children a mother had, or what the hardships of her situation, the maximum pension she could receive in Racine was \$40, so the grants were inadequate in many cases. Before the unemployment period, supplementary aid to mothers receiving pensions had been given only in exceptional cases by the private relief society. Such aid had usually consisted only of clothing. Since the unemployment period began, far greater demand for supplementary aid in these cases had been made, and orders for groceries as well as clothing had been granted to a much greater extent than formerly. The small amount of the grant that could be made undoubtedly explains why many of the mothers worked when they could secure employment, instead of applying for mothers' pensions.



## FAMILIES OF MEN GIVEN EMERGENCY EMPLOYMENT IN SPRINGFIELD.<sup>25</sup>

An earlier section of this report includes information regarding the plans for city employment that were put into operation in Springfield in August, 1922. Applications for the emergency work furnished by the city street and park departments were made to the special employment office designated for the purpose by the mayor. The private relief society cooperated in this enterprise and made the investigations for the employment office, visiting the homes of all the men applying for work, and verifying statements in regard to dependents, resources of the family, and other items needed in determining whether the applicants should be given city work. Since it was necessary to give preference to those who stood in the most immediate need, the work was limited to men with dependent children or with more than one adult dependent upon them.

During the first six and a half months of the operation of the special employment office, 1,017 men were given city work. Of these, 663 were men with dependent children. This last group was thought to constitute one of special interest in a study of the nature of the unemployment problem. The facts secured from records of the investigating office concerning the 663 fathers of dependent children form the basis for the discussion that follows.

### THE FATHER'S PREVIOUS EMPLOYMENT.

#### Interval between loss of employment and application for city work.

Almost one-fifth of the 663 men had applied for city work within a month after becoming unemployed, and nearly half within three months. It is evident, however, that some of the longer intervals shown in the following list may be accounted for by the fact that the office was not opened until August 1, 1921, when unemployment had been serious for some months.

Duration of unemployment before applying for city work.	Per cent distribution.
Total.....	100
Less than 1 month.....	19
1 month.....	16
2 months.....	12
3 months.....	9
4 months.....	8
5 months.....	5
6-11 months.....	25
12-17 months.....	6

<sup>25</sup> See Appendix A, Tables 47 and 48.

**Weekly wages.**

The weekly rates of wages these men had received in their previous employment were reported as follows:

Former regular weekly wages.	Per cent distribution.
Total.....	100
\$10, less than \$15.....	2
\$15, less than \$20.....	11
\$20, less than \$25.....	29
\$25, less than \$30.....	28
\$30, less than \$35.....	16
\$35 and over.....	14

The above figures show that considerably more than half the men with dependent children who were given city work had received in their regular employment a weekly wage of \$25 or over. It is, therefore, of interest to find that two-fifths of the men previously receiving such wages remained unemployed for six months or more before applying for city work, as against one-fifth of the men who had earned less than \$25. More than half the men in the lower wage group sought city employment within three months of being thrown out of work.

**Occupations.**

For 628 of the men the last regular occupation was entered on the records. Thirty-three per cent had been in occupations classified as skilled, 19 per cent were semiskilled workers, and 44 per cent were laborers. The remaining 4 per cent included retail dealers, clerks, servants, railroad employees, and others.

Previous occupation.	Number of fathers reporting.
Total.....	628
Laborer.....	273
Machinist.....	89
Chauffeur.....	24
Filer, grinder, polisher.....	23
Carpenter.....	19
Painter.....	18
Machine operative.....	13
Assembler.....	12
Mechanic.....	9
Toolmaker.....	9
Drop forger.....	9
Mason.....	8
Molder.....	8
Inspector.....	6
Metal worker.....	6
Tinsmith.....	6
Weaver.....	6
Fireman.....	5
Punch pressman.....	5

Previous occupation.	Number of fathers reporting.
Servant.....	5
Tire maker.....	4
Woodworker.....	4
Steam fitter.....	3
Shoemaker.....	3
Billing and shipping clerk.....	2
Box maker.....	2
Cement finisher.....	2
Clerk.....	2
Core maker.....	2
Foreman.....	2
Machinist's helper.....	2
Millwright.....	2
Rifle tester.....	2
Stockkeeper.....	2
Welder.....	2
Other.....	39

#### SOCIAL DATA.

##### Ages of fathers.

The ages reported for these 663 men at the time of their applications for city work showed that 89 per cent of them were in the vigorous years of life, between 21 and 50. The largest number (38 per cent) were between 30 and 40, 26 per cent were between 21 and 30, and 25 per cent between 40 and 50. A further 10 per cent were between 50 and 60 years of age, while 14 men were 60 years of age or over, and 2 were under 21.

##### Nativity and length of residence in city.

The foreign born formed a considerably larger proportion of the 663 men than of the general population of the city—52 per cent in the unemployed group as against 36 per cent in the population. Men born in Italy constituted nearly half of those of foreign birth who were given city work. Of the remainder no considerable number came from any one country—19 countries being represented.

Only 52 of the 663 men were natives of the city; on the other hand, only 1 per cent had been in the city for less than a year. A total of 53 per cent had been resident there for less than 10 years; 25 per cent for from 10 to 19 years; and 22 per cent for 20 years or over.

##### Number and ages of children.

In two families the ages and the number of children were not reported. In the other 661 families there were 1,776 children under 18 years of age. More than half of these children were under 7 years of age. In the general population of the city 45 per cent of the children under 18 were under the age of 7 years as compared with 51 per cent in the unemployed group. Almost two-fifths of the children

were of compulsory school age. One-tenth had reached the minimum legal working age. The age distribution of these children was as follows:

Age of child.	Number of children under 18 years.
Total.....	1,776
Under 1 year.....	155
1 year.....	132
2 years.....	123
3 years.....	139
4 years.....	122
5 years.....	115
6 years.....	123
7 years.....	113
8 years.....	111
9 years.....	101
10 years.....	87
11 years.....	75
12 years.....	98
13 years.....	74
14 years.....	70
15 years.....	51
16 years.....	34
17 years.....	27
Age not reported.....	26

Although there were 182 children 14 to 17 years of age, inclusive, only 17 of them were working. This is a striking indication of the unemployment situation with respect to children of working age. Under ordinary circumstances a considerable proportion of these children would undoubtedly have been compelled to leave school and go to work when their fathers became unemployed. Probably many of them had been at work but could no longer secure it. The compensating factor here was, of course, that the unemployed children under 16 years of age had to remain in or return to school.

### Debts.

When the men applied for city work, inquiry was made in regard to indebtedness. Two-thirds of the families were reported as having debts ranging from a few dollars to several hundred. The amounts are shown below:

Amount of indebtedness.	Number of families reporting.
Total.....	663
No debts.....	222
Under \$10.....	16
\$10, less than \$25.....	56
\$25, less than \$50.....	97
\$50, less than \$75.....	71
\$75, less than \$100.....	48

Amount of indebtedness.	Number of families reporting.
\$100, less than \$125.....	35
\$125, less than \$150.....	15
\$150, less than \$175.....	17
\$175, less than \$200.....	8
\$200, less than \$225.....	23
\$225, less than \$250.....	1
\$250, less than \$300.....	5
\$300, less than \$350.....	9
\$350, less than \$400.....	1
\$400, less than \$450.....	5
\$450, less than \$500.....	2
\$500.....	1
\$700.....	1
Amount not reported.....	30

### Assistance by public and private agencies.

The data in regard to relief and other assistance given to the families of this group of unemployed men indicate to some extent the status of the families, but the figures obtainable unfortunately relate to the period preceding, as well as during, this time of special stress. It is, therefore, not possible to relate this information directly to unemployment conditions.

Almost a fourth of the 663 families had been given some form of assistance by the private family-relief agency, the city overseers of the poor, visiting nurses, or other social agencies or institutions. All but 7 of these 157 families had received charitable aid. Almost half had been given assistance by more than one agency, while 8 per cent were known to four or more agencies. One family was reported by six agencies as having been aided—the private-relief society, the overseer of the poor, the Visiting Nurses' Association, the Society for the Prevention of Cruelty to Children, a church organization giving relief, and the State board of charities. There were 7 families each having one child in a institution—of these children 2 were in a home for dependent children, 2 were in the State hospital for epileptics, and 1 was in a training school for delinquent children. In 79 families the Visiting Nurses' Association had given assistance during illnesses; all but 23 of these families were known also to other agencies.

Number of agencies aiding each family.	Number of families
Total.....	157
1.....	85
2.....	39
3.....	21
4.....	7
5.....	2
6.....	2
7.....	1

Perhaps the most significant fact in connection with this phase of the problem is that, up to the time of applying for city work, three-fourths of the families of the 663 men with dependent children had not been known to social agencies, either before unemployment or because of it. The corollary to this in the case of many families may be found in the preceding paragraphs relating to debts.

## **CHILD LABOR IN AN UNEMPLOYMENT PERIOD.**

### **CHILDREN ELIGIBLE FOR WORK.**

In each of the two cities an effort was made to determine the effect of the unemployment situation on the continuance of schooling and on the prevalence of child labor. For this purpose data were secured from the offices issuing employment certificates to children, and from the continuation schools attended by working children within the permit ages.

Under the Wisconsin law no child between the ages of 14 and 17 years may be employed or permitted to work at any gainful occupation other than agriculture or domestic service unless he has secured a working permit authorizing the employment. The granting of a permit for work is contingent on the child's completion of the eighth grade or school attendance for nine years. Children who have completed the period of compulsory full-time education, but who have not completed a four-year high-school course and are not attending a regular day school for at least half-time, must attend a continuation school, where such schools have been established, for one-half day of each school day until the end of the term of the school year in which they become 16, and thereafter they must attend such a school eight hours a week until the end of the term in which they become 18. In cities where continuation schools are maintained, children employed in domestic service must also secure working permits and attend the part-time schools.

In Massachusetts no child under 16 years of age, unless physically or mentally unable to attend school, may secure an employment certificate until he has completed the sixth grade and is to be employed for at least 6 hours a day. This law applies to all occupations, special forms of permits being issued for work at domestic service and on farms. All children between the ages of 14 and 16 years thus excused from full-time school attendance must attend a continuation school, wherever such a school is established, for 4 hours a week, and if they become unemployed they must attend for 20 hours a week, provided the school is in session for that length of time.

### **EFFECT ON CHILD LABOR IN RACINE.**

In Racine child-labor permits are issued at the office of the continuation school. This school has been in operation for several years, and has had an opportunity to enroll all the children who leave the regular schools to enter employment. The most recent

amendment to the law requiring part-time school attendance of working children extended its application to children under 18 years. But at the time of the study the law was not being enforced in the case of children who were 17 years of age before September 1, 1921, so that the figures in regard to children who had left school to go to work may be considered as being fairly adequate only for children under 17 years of age. The enrollment in the part-time school included children who had left the regular schools to go to work but who were unemployed, as well as those who were working. All-day classes were provided for unemployed children, many of whom, however, reentered the regular schools.

### **Children enrolled in continuation school.**

It was obvious that the number of children reported in the records of this school as working at the time of the inquiry was larger than the number actually at work. The law requires the employer to return the working permit of a child to the issuing officer within 24 hours of the time that the child leaves his employment. During the unemployment period this requirement was liberally construed because the industries that were compelled to cut down their force on account of slack work hoped to be able in a short time to reemploy those discharged and for this reason held the permits, interpreting the situation to mean that there had been a temporary reduction of force rather than a permanent discharge. For the same reason the length of unemployment for the children could not be accurately ascertained from the records of the school or the permit-issuing officer.

It was reported that there had been considerable complaint at the permit office during the unemployment period because of the school attendance requirements, some families claiming that they meant lower wages and interfered with a boy or girl holding a job at a time when the father was out of work and it was absolutely necessary that the child should be allowed to work full time. The school superintendent had made an effort to secure reliable information in regard to the families of pupils whose nonattendance had been attributed to lack of sufficient income because of the unemployment of parents or of older brothers and sisters, and there had been a tendency toward leniency in such cases. To a certain extent the data secured from the continuation school relative to working children would be affected by this, offsetting in some measure the figures in regard to children who were at work, which apparently included some who had been laid off, but whose permits had not been returned to the school.

Another probable weak spot in the statistics on working children is in connection with the number of girls who were employed at house-



work. The theory was that they should attend the continuation school, but it appears probable that they were not all registered, especially if they had not gone to work immediately after leaving the regular schools.

On December 31, 1921, there were 742 children—355 boys and 387 girls—enrolled in the Racine continuation school. It was known that at least 130 of these children—67 boys and 63 girls—had left the regular schools and gone to work after November 30, 1920; that is, during the period of serious industrial depression in that city. The ages of the children were as follows:

Ages December 31, 1921.	Children enrolled during unemployment period.
Boys.....	67
14 years.....	3
15 years.....	21
16 years.....	33
17 years <sup>26</sup> .....	10
Girls.....	63
14 years.....	1
15 years.....	22
16 years.....	37
17 years <sup>26</sup> .....	3

### Time elapsed since leaving regular school.

The length of time since leaving the regular school was reported for 54 per cent (403) of the children. More than two-fifths of these had left school to go to work between a year and a half and two years prior to the time of the inquiry. Over one-fourth had left school within the past year—the period of most serious unemployment.

Time elapsed since leaving school.	Per cent distribution.
Total.....	100
Less than 6 months.....	14
6-11 months.....	13
12-17 months.....	3
18-23 months.....	43
24-35 months.....	24
36 months and over.....	3

### Decline in child labor.

The accompanying graph, based on the number of working children in the continuation school over a period of eight years, shows clearly the decline in child labor during the industrial depression. It also shows the earlier period of abnormal demand for labor, so that the acute industrial depression really meant—so far as child labor was concerned—a sudden drop to what had been normal conditions before the war activities produced the great increase in the number of employed children.

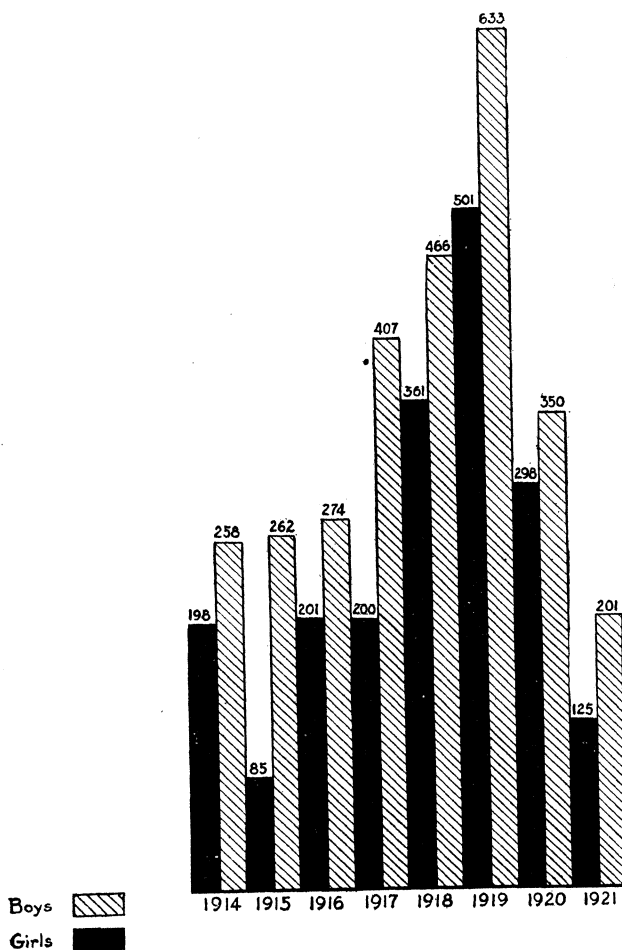
<sup>26</sup> It has been pointed out that the enrollment of boys and girls 17 years of age was incomplete.

The following figures, comparing for certain dates the total enrollment in the school with the number of children enrolled in the school who were actually working, show the sharp decline in jobs available

CHART VII.

## RACINE, WISCONSIN-EMPLOYMENT OF CHILDREN

NUMBER OF BOYS AND GIRLS ENROLLED IN VOCATIONAL SCHOOL  
WHO WERE WORKING ON JUNE FIRST OF EACH YEAR



to children. It has been noted that children who had left the regular schools to go to work were required to attend the continuation school whether or not they were employed, unless they reentered the regular schools.

Date.	Enrollment of children under 18 years of age.	
	Total.	Working.
June, 1914.....	498	456
June, 1915.....	355	347
June, 1916.....	510	475
June, 1917.....	708	609
June, 1918.....	855	827
June, 1919.....	1,232	1,134
December, 1919.....	991	893
June, 1920.....	916	648
December, 1920.....	1,077	736
June, 1921.....	1,269	326
December, 1921.....	866	364

The decrease in the number of new permits issued during 1921, as compared with the preceding year, is shown in the following monthly totals:

	1920.	1921.
Total permits issued.....	707	172
January.....	50	13
February.....	73	16
March.....	42	16
April.....	35	12
May.....	22	15
June.....	5	11
July.....	133	1
August.....	3	1
September.....	295	43
October.....	16	18
November.....	14	18
December.....	19	8

During 1920 a total of 391 permits were issued to boys and 316 to girls, and in 1921, 79 were issued to boys and 93 to girls. These figures represent children leaving school to enter work for the first time. They give a clear picture of what happened when the industrial depression made it difficult for children to find work; the difference between the numbers in the two columns shows how many more children remained in school.

#### **Jobs secured by children during unemployment period.**

Because of the great scarcity of work for men the jobs secured by the children who were still of compulsory-school age are of special interest. The following were reported as the first occupations of children who secured their first working permits after November 30, 1920.

Occupation or place of employment reported.	Children beginning work after Nov. 30, 1920.
Total.....	130
Boys.....	67
Clerk and errand boy for stores.....	21
Factory worker.....	18
Messenger and errand boy.....	4
Newspaper and printing office.....	3
Office work.....	3
Tailor shop.....	2
Shoe-shining or repairing shop.....	2
Working for father—plumbing or garage.....	2
Caddy.....	1
Carpenter shop.....	1
Contractor.....	1
Dental-supply company.....	1
Ice company.....	1
Janitor.....	1
Not reported.....	6
Girls.....	63
Factory and laundry work.....	20
Housemaid (including 1 nursemaid).....	16
Clerk in store.....	13
Stenographic or other office work.....	8
Newspaper and printing office.....	3
Millinery apprentice.....	2
Not reported.....	1

It is, of course, impossible to conjecture as to the probable number of these jobs that might have been accepted by adults even with the presumably low rate of pay, in order to tide over the unemployment period. In a time of such scarcity of work and the suffering entailed upon great number of families, it might well be seriously urged that an even greater proportion of children be permitted to continue their schooling and many of the jobs be given to men and women who had spent months in fruitless search for work.

#### EFFECT ON CHILD LABOR IN SPRINGFIELD.<sup>27</sup>

##### Employment certificates.

In Springfield several types of employment certificates and permits are issued by the school-attendance department: (1) Working certificates for children between 14 and 16 years of age working in Springfield. These children must attend the Springfield continuation school. (2) Working certificates for children of like ages residing in Springfield but working in other towns. These children must go to the continuation school in the town of employment. (3) Permits for home work for children between 14 and 16 years of age; they, also, must attend the continuation school. (4) Permits for work out of

<sup>27</sup> See Appendix A, Tables 42-46, inclusive.

school hours for children of the same ages. (5) Certificates to minors between 16 and 21 years of age whom the law requires to attend evening school; that is, illiterates and persons who have not had the schooling necessary for securing a regular work permit.

A comparison of the total number of certificates and permits issued during the year which included the unemployment period, with those issued during the preceding year, will be of interest.

Type of permit.	Children granted permits.	
	1920.	1921.
To residents employed in Springfield.....	1, 595	846
To residents of Springfield employed elsewhere.....	69	91
Home permits.....	64	68
To nonresidents working in Springfield.....	318	202

### Child labor before and during the unemployment period.

The best information in regard to the child-labor situation was to be obtained from the records of the certificate issuing office rather than from those of the continuation school, which in Springfield was of comparatively recent origin. The main interest would be in children between 14 and 16 years of age granted working certificates, who resided in Springfield, whether or not they were employed there.

Chart VIII shows graphically the rise and decline of child labor, by months, accompanying industrial prosperity and depression.

Chart IX shows the variation in the number of children leaving school to enter employment, during a period of seven years—1915 through 1921. This is based on the number of first certificates issued each year, so that the figures refer to the number of different children, and not to the number of certificates issued. The figures follow:

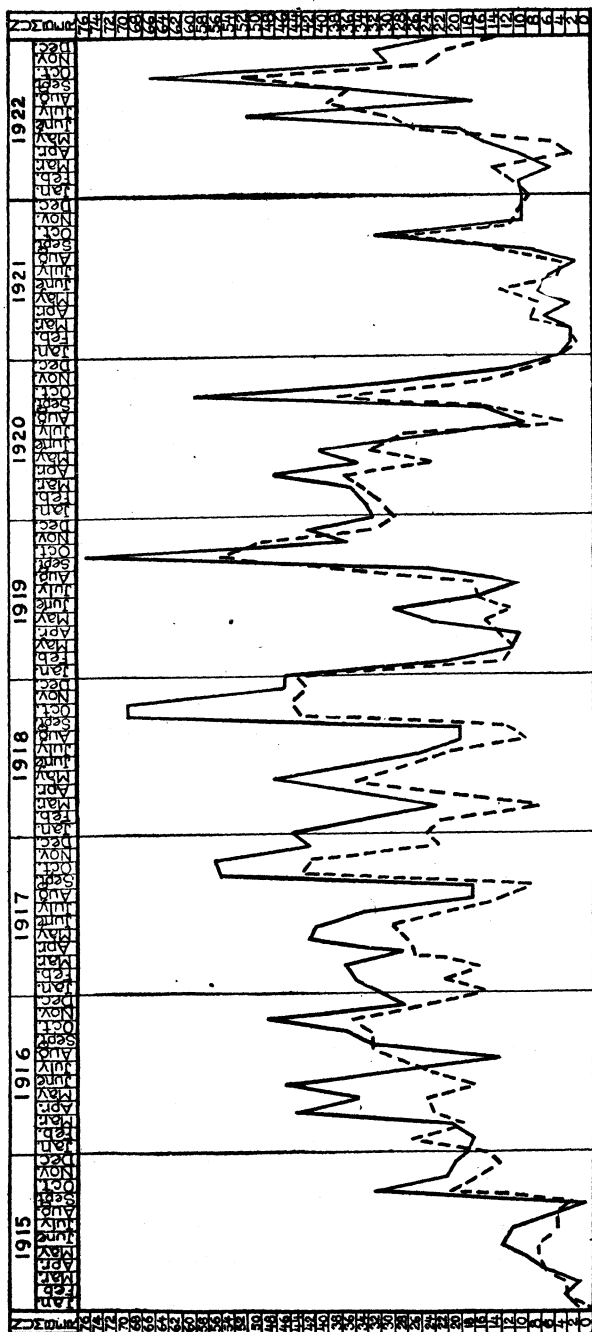
Year.	Children granted permits for the first time.	
	Boys.	Girls.
1915.....	157	119
1916.....	404	273
1917.....	457	303
1918.....	479	346
1919.....	345	295
1920.....	354	276
1921.....	102	115

While the decline in numbers of children employed in 1921 is undoubtedly mainly due to the industrial depression that followed the maximum attained during the war, when boys and girls could obtain employment very readily at abnormally high wages, the numbers were also affected to some extent by the higher educational qualifications required for securing certificates. This new requirement, which went into effect in August, 1921, specified completion of all studies of the sixth grade, while the previous requirement was that the children must be able to read and write sufficiently well to qualify in the sixth grade in this respect.

## CHART VIII.

**SPRINGFIELD, MASSACHUSETTS —EMPLOYMENT OF CHILDREN**

Number of children between 14 and 16 years of age leaving school in Springfield, Massachusetts each month to engage in employment, as indicated by initial employment certificates issued.



Prepared by  
John A. Parker,  
Attending Officer,  
Public Schools,  
Springfield, Mass.

### **Children attending continuation school.**

The continuation school in Springfield started in September, 1920, and had been in operation for less than two years at the time this study was made. Children working in Springfield, whether residing in the city or in other towns, had to go to the continuation school four hours a week. Children temporarily out of employment had to attend for 20 hours a week, unless they reentered the regular schools. The practice appeared to be to encourage them to reenter the regular schools if the unemployment was likely to be of any considerable duration.

It was found that at the time of the study 36 children between 14 and 16 years of age who had working certificates and were unemployed were attending the continuation school, while 73 were back in the regular schools. From September, 1920, to June, 1921, 119 pupils returned to the regular schools when they lost their jobs.

A small number of "home-permit" children—12 boys and 3 girls—were attending the continuation school at the time of the study. A statement by the office of the school gave the following as the main types of home-permit cases: "(1) Girls who have left school in order to help mothers who are not able, because of poor health, to do their work alone. (2) Girls who have left school to help with work at home while their mothers are engaged in outside work. (3) Girls who live out at domestic service." Occasionally a boy was granted a permit to stay at home and help out in an emergency, or was given such a permit when he was employed in a private family where he made his home.

### **Children securing work during the unemployment period.**

A total of 155 children between 14 and 16 years of age secured their first working certificates during the time of the most serious industrial depression—subsequent to May 1, 1921. Of these children, 122 were working on February 1, 1922, and 33 were not employed. The information secured from the certificates in regard to the first jobs held by these children follows. As appeared to be the case in Racine, many of these jobs might have proved desirable for men or women who had been thrown out of their regular occupations.

First jobs of children whose original  
working permits were secured  
subsequent to May 1, 1921.

Number of  
children.

Total.....	155
Boys.....	67
Factory worker.....	17
Packer.....	4
Doffer.....	3
Floor boy.....	3
Stock boy.....	3
Card cutter.....	1
Machine operative.....	1
Making bands.....	1
Splitting yarn.....	1
Messenger and errand boy.....	17
Office boy.....	9
Clerk in store.....	6
Cash or floor boy in department store.....	4
Bootblack.....	4
Mattress maker.....	1
Farm hand.....	1
Laundry operative, shaking clothes.....	1
Helper in—	
Auto repair shop.....	1
Bindery.....	1
Mail room.....	1
Milk house.....	1
Tailor shop.....	1
Upholstering department in department store.....	1
Home permit (mother ill).....	1
Girls.....	88
Factory operative.....	39
Wrapping or packing candy.....	13
Turning in or folding paper boxes.....	8
Dressing dolls.....	2
Inspector.....	2
Machine operative.....	2
Assembler.....	1
Doffer.....	1
Other—labeling, cutting, binding, sewing on buttons, sorting, folding aprons.....	10
Housework away from home.....	17
Housework at home (on home permit).....	12
In hospital diet kitchen.....	2
Keeping books for father.....	1
Clerk in store.....	14
Millinery apprentice.....	1
Typist and bookkeeper.....	1
Waitress.....	1

The jobs were not very steady, for the 155 children held 221 different jobs during the nine months that followed. It must, of course, be borne in mind that the employment periods of the children



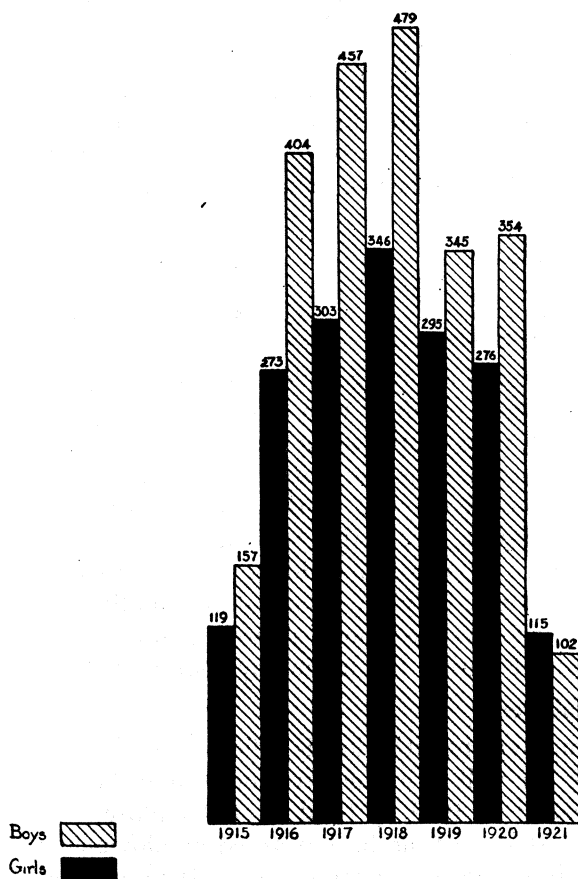
varied in length, many being of very short duration. On February 1, 1922, more than one-fifth of the children were unemployed. The following list shows the number of jobs held by each child:

Number of jobs secured.	Number of working children.
. Total.....	155
1.....	112
2.....	28
3.....	10
4.....	3
5.....	1
6.....	1

CHART IX.

## SPRINGFIELD, MASS. - EMPLOYMENT OF CHILDREN

BOYS AND GIRLS LEAVING SCHOOL TO ENTER EMPLOYMENT AS INDICATED BY  
INITIAL EMPLOYMENT CERTIFICATES ISSUED EACH YEAR



Prepared by  
John A. Parker,  
Attendance officer  
Public Schools  
Springfield, Mass.

### Why the children left school to go to work.

Inquiry into the causes of the children's leaving school to go to work would undoubtedly have yielded important evidence in regard to the need that existed for the added income derived from the children's earnings. Such an investigation would have demanded an intensive study of the economic conditions in the families of the children and of the other factors which influenced the children to leave school to go to work. It was not possible to undertake such a study in connection with the general inquiry, because data of this character, in order to be satisfactory, would have to be secured coincidentally with the child's first entering employment. However, the following facts in regard to the families in which there were working children, which had come to the attention of agencies giving some form of assistance, furnished some indication of the conditions in these homes.

At the time of the study, 267 children between 14 and 16 in Springfield had sometime been granted employment certificates and had gone to work, but many of them had returned to school because they had lost their jobs and were not able to secure others. The families of 74 (over one-fourth) of these children had at some time been aided by a relief society or by the visiting nurses, or employment had been secured for some member of the family through the city or State employment offices. The number of families given each of these kinds of assistance were as follows:

Aid from relief society.....	46
Nursing service.....	33
City.....	17
State employment—office jobs.....	12

The proportion of families receiving such assistance was practically the same for those having children who left school to go to work before the fathers lost their work as for those whose children left school after that misfortune, the percentages being 26 and 29, respectively. The families of only 12 of the children were aided by these agencies after May 1, 1921, the beginning of the period of serious unemployment. Of the 155 children who secured working permits after May 1, 1921, only 45 belonged to families that had ever been given aid, as far as the reports showed, and only 8 of these families had been aided during the unemployment period.

### Unemployment of children.

The general unemployment situation is reflected in the work histories of the children, as well as in the data concerning the fathers of families. On February 1, 1922, a total of 109 children, between 14 and 16, who had at some time been granted employment certificates had lost their jobs and were unemployed. It may be assumed

that a considerable proportion of these children would not attempt to go back to work, at least during the period when work was hard to find, for 73 children had already returned to the regular schools after they lost their jobs; the other 36 were reported as attending the continuation school. Almost a fourth of the children who were unemployed had held three jobs or more, as shown in the following list:

Number of jobs held.	Number of unemployed children.
Total.....	109
1.....	58
2.....	24
3.....	12
4.....	13
8.....	1
10.....	1

The length of time that had elapsed since the children lost their last jobs was reported as follows:

Time since losing last job.	Number of children unemployed Feb. 1, 1922. <sup>28</sup>
Total.....	109
Less than 1 month.....	25
1 month.....	7
2 months.....	2
3 months.....	6
4 months.....	5
5 months.....	2
6 months.....	1
7 months.....	2
8 months.....	1
9 months.....	4
10 months.....	2
11 months.....	2
12 months.....	8
13 months.....	6
14 months.....	8
15 months.....	8
16 months.....	9
17 months.....	2
18 months.....	3
19 months.....	2
20 months.....	1
Not reported.....	3

The individual case items given in Detailed Tables F and G afford information regarding the occupation, periods of employment, and length of time not working for children under 16 who secured permits for the first time during the serious industrial depression and for those who had permits secured earlier.

<sup>28</sup> Seventy-three were attending a regular school and 36 the continuation school.

DETAILED TABLE F.—*Springfield: Children 14 and 15 years of age to whom employment certificates had been issued since May 1, 1921, who were unemployed February 1, 1922.*

## BOYS.

Age.	Grade completed.	Length of time since child first went to work (months).	Jobs held.	Length of time in each job.	Interval between leaving last job and Feb. 1, 1922. <sup>1</sup>
15	Sixth.....	4	Shipping room, factory.....	3 months.....	Under 1 month.
15	Seventh.....	4	Jeweler's apprentice.....	1 week.....	Do.
14	Sixth.....	4	Office boy.....	1 month.....	Do.
15	Seventh.....	4	Cash boy, department store.....	2 months.....	Do.
15	Eighth.....	1	On farm.....	1 month 1 week.....	Do.
15	Seventh.....	4	Stamping books, department store.....	2 months 2 weeks.....	Do.
15	Seventh.....	4	Floor boy, department store.....	2 months 1 week.....	Do.
15	Seventh.....	4	Bundle wrapper, department store.....	2 months.....	Do.
15	Seventh.....	4	Office boy.....	1 month 2 weeks.....	Do.
15	Seventh.....	2	Clerk in store.....	2 months 2 weeks.....	Do.
15	Seventh.....	4	Telegraph messenger.....	3 months 3 weeks.....	Do.
15	Seventh.....	4	Splitting yarn and sweeping.....	3 months 3 weeks.....	Do.
14	Sixth.....	3	Telegraph messenger.....	3 months 2 weeks.....	Do.
15	Seventh.....	4	Shoe shining.....	2 months.....	1 month.
15	Eighth.....	2	In tailor shop.....	1 week.....	Do.
15	Seventh.....	4	Office boy.....	1 month.....	Do.
14	Fifth.....	7	Bootblack.....	2 months.....	Under 1 month.
14	Seventh.....	8	Errand boy.....	1 week.....	Do.
14	Seventh.....	8	Floor work, factory.....	2 months.....	3 months.
15	Seventh.....	8	Telegraph messenger.....	1 month 2 weeks.....	3 months.
15	Seventh.....	8	Handwork in bindery.....	5 months.....	3 months.
15	Seventh.....	8	Farm work.....	3 days.....	Under 1 month.
15	Seventh.....	8	Errand boy and helper, shoe repairer.....	2 months.....	Under 1 month.
14	Seventh.....	7	Clerk and errand boy, store.....	1 week.....	Do.
14	Seventh.....	7	Telegraph messenger.....	2 months.....	4 months.
14	Ninth.....	5	Shaking clothes, laundry.....	2 months 1 week.....	Do.
14	Ninth.....	5	Office boy.....	1 month 2 weeks.....	Do.

## GIRLS.

15	Ninth.....	1	Clerk in store.....	1 week.....	1 month.
15	n. r.....	4	Housework at home.....	3 months 3 weeks.....	4 months.
14	Eighth.....	4	Wrapping candy.....	1 week.....	Do.
14	Seventh.....	15	do.....	4 days.....	15 months.
14	Sixth.....	3	Sewing on buttons, coat supply.....	3 weeks.....	Under 1 month.
15	Ninth.....	2	Salesgirl.....	3 weeks.....	Do.
15	Seventh.....	4	Housework.....	1 month 3 weeks.....	Do.
15	Sixth.....	4	Folding paper boxes, factory.....	4 months.....	Do.
15	Sixth.....	4	Housework at home.....	1 week.....	Do.
15	Sixth.....	4	Wrapping candy.....	1 month 1 week.....	Do.
15	Sixth.....	4	Housework at home.....	2 months.....	Do.
15	Sixth.....	4	Folding paper boxes, factory.....	3 weeks.....	Do.
15	Sixth.....	4	Weighing hops.....	2 weeks.....	Do.
15	Sixth.....	4	Lacing corsets, factory.....	2 months 2 weeks.....	Do.
15	Seventh.....	6	Salesgirl.....	2 months 2 weeks.....	4 months.
14	Seventh.....	5	Binding paper boxes.....	1 month 3 weeks.....	3 months.
14	Seventh.....	18	Clerk in store.....	3 months 1 week.....	1 month.
15	Seventh.....	8	Housework.....	1 month 1 week.....	Under 1 month.
15	Seventh.....	8	Salesgirl.....	1 week.....	Under 1 month.
15	Seventh.....	8	do.....	3 weeks.....	Under 1 month.
15	Seventh.....	8	do.....	3 months 1 week.....	Under 1 month.
15	Seventh.....	8	do.....	3 months 1 week.....	Under 1 month.
15	Sixth.....	8	Assembling stock, factory.....	7 months 2 weeks.....	Do.
15	First year high school.....	5	Tying and closing boxes, factory.....	2 months 1 week.....	Do.
15	First year high school.....	5	Millinery apprentice.....	2 months.....	Do.

<sup>1</sup> These children were enrolled in either the continuation school or the regular school during their periods of unemployment.

<sup>2</sup> Less than 1 month.

DETAILED TABLE G.—*Springfield: Children 14 and 15 years of age to whom employment certificates had been issued prior to May 1, 1921, who were unemployed February 1, 1922.*

## BOYS.

Age.	Grade completed.	Length of time since child first went to work (months).	Jobs held.	Length of time in each job.	Interval between leaving last job and Feb. 1, 1922.
15	Sixth.....	16	Telegraph messenger.....	3 weeks.....	Less than 1 month.
			Packing, factory.....	3 days.	
15	Seventh.....	19	Telegraph messenger.....	2 weeks.	4 months.
			Floor boy, department store.....	3 months 2 weeks.	
			Cash boy, department store.....	3 weeks.	
			Floor boy, department store.....	1 month 2 weeks.	
15	....do.....	16	Making mattresses.....	1 week.	Less than 1 month.
			Errand boy, factory.....	8 months 1 week.	
			Errand boy, store.....	2 weeks.	
			Helper at bakery.....	5 months 3 weeks.	
15	....do.....	17	Floor work, factory.....	n. r.	Do.
			Delivery boy, store.....	3 months 2 weeks.	
15	....do.....	17	Errand boy, factory.....	1 week.	5 months.
			Errand boy, drug store.....	2 weeks.....	
14	n. r.....	9	Floor boy, department store.....	2 months.	Do.
			Farming (living with family).....	3 months 2 weeks.	
15	Seventh.....	16	Assembling games, factory.....	9 months 3 weeks.	7 months.
15	Eighth.....	20	Clerk and errand boy, store.....	1 month 1 week.	8 months.
			Delivery boy, store.....	7 months.	
15	n. r.....	18	Doffing.....	2 months 1 week.	9 months.
			Bobbin setter.....	7 months.	
15	Seventh.....	16	Assembling games, factory.....	6 months 3 weeks.	Do.
15	Sixth.....	20	Errand boy.....	1 week.....	Do.
			Removing brushes from clutch.....	3 weeks.	
			Assembling games, factory.....	2 months.	
			Washing and filling bottles.....	3 days.	
15	Seventh.....	17	Errand boy, store.....	2 weeks.....	10 months.
			Assembling games, factory.....	1 month 1 week.	
15	Eighth.....	17	Mail boy, factory.....	5 months.	12 months.
			Packing games, factory.....	1 month 1 week.	
			Assembling games, factory.....	4 months 2 weeks.	
15	....do.....	18	Filling cases, factory.....	1 month.....	Do.
			Clerk in store.....	1 month 3 weeks.	
15	Ninth.....	19	Mailing department, newspaper office.....	1 week.....	17 months.
			Factory work.....	1 month 2 weeks.	
15	Sixth.....	14	Core maker.....	2 months 2 weeks.	12 months.
15	....do.....	16	Errand boy.....	3 months 3 weeks.	Do.
15	....do.....	20	Stock boy and errand boy, department store.....	8 months.....	Do.
15	Fifth.....	22	Stock boy, factory.....	2 weeks.....	13 months.
			Stringing chain, factory.....	4 months 3 weeks.	
			Telegraph messenger.....	1 week.	
			Floor boy, factory.....	3 months 2 weeks.	
15	Sixth.....	20	Packing in factory.....	3 weeks.....	Do.
			Helper in factory.....	3 months 2 weeks.	
			Filing cores.....	1 month.	
			Cash boy, department store.....	1 week.	
15	Ninth.....	16	Molding chocolate.....	2 months 3 weeks.	Do.

DETAILED TABLE G.—*Springfield: Children 14 and 15 years of age to whom employment certificates had been issued prior to May 1, 1921, who were unemployed February 1, 1922—Continued.*

BOYS—Continued.

Age.	Grade completed.	Length of time since child first went to work (months).	Jobs held.	Length of time in each job.	Interval between leaving last job and Feb. 1, 1922.
15	Fourth.....	15	Assembling games.....	2 months....	14 months.
15	Eighth.....	14	Floor boy, factory.....	1 month.....	Do.
			Packing, factory.....	1 month.....	
			Assembling, factory.....	2 months 2 weeks.	
15	Fifth.....	21	Assembling.....	1 month 3 weeks.	Do.
			Packing.....	2 weeks.	
			Telegraph messenger.....	1 month 1 week.	
15	Seventh.....	23	Cementing, factory.....	5 months 3 weeks.	Do.
			Assembling, factory.....	1 week.	
			Doffer, rug company.....	1 month 1 week.	
			Assembling, factory.....	1 month 2 weeks.	
15	Sixth.....	17	Packing, factory.....	3 months....	Do.
15	Fourth.....	15	Errand boy.....	2 weeks.....	Do.
15	Eighth.....	17	Assembling games.....	3 weeks.....	Do.
			Telegraph messenger.....	1 month 1 week.	
15	Sixth.....	17	Assembling.....	1 month 2 weeks.	Do.
15	do.....	17	Light shopwork.....	1 week.....	15 months.
			Light factory work.....	3 weeks.	
			General helper, errand, etc.....	1 month 2 weeks.	
			Office boy, storage company.....	1 month 2 weeks.	
15	First year high school.	16	Telegraph messenger.....	4 weeks.....	Do.
15	Eighth.....	15	Bending forgings.....	5 days.....	Do.
15	do.....	16	Clerk (not in store).....	1 month.....	Do.
15	Seventh.....	16	Shop boy, factory.....	1 month 3 weeks.	Do.
15	Eighth.....	19	Assembling.....	2 months 3 weeks.	Do.
			Office work.....	1 month.....	
15	Sixth.....	18	Doffer, carpet company.....	1 month 2 weeks.	16 months.
15	Eighth.....	17	Floor boy, department store.....	1 month.....	Do.
15	do.....	16	Assembling games, factory.....	3 days.....	Do.
15	Sixth.....	17	Shipping room, foundry.....	3 weeks.....	Do.
15	Eighth.....	19	Boxing garments.....	2 months.....	Do.
15	Seventh.....	19	Telegraph messenger.....	3 months.....	Do.
15	n. r.....	19	do.....	3 months.....	Do.
15	Seventh.....	19	Floor boy, factory.....	2 months.....	Do.
15	Sixth.....	19	Clerk in store.....	1 month 1 week.	18 months.
15	Seventh.....	19	Helper in packing room.....	2 weeks.....	Do.
15	Ninth.....	19	Working for nursery company.....	1 week.....	19 months.
15	Seventh.....	20	Telegraph messenger.....	3 weeks.....	Do.
15	Eighth.....	22	Errand boy.....	1 month 2 weeks.	20 months.
15	Sixth.....	20	Clerk in store.....	n. r.....	n. r.
15	do.....	17	Bundle boy, store.....	1 month.....	n. r.
			Clerk in store.....	1 month 1 week.	
			Bundle boy.....	3 months.....	
			Auto mechanic.....	4 months 2 weeks.	
15	do.....	15	Assembling games, factory.....	1 week.....	Under 1 month.
			Bundle boy, department store.....	2 months 1 week.	
15	Fourth.....	20	Shop work.....	3 weeks.....	3 months.
			Filling orders, factory.....	3 months 3 weeks.	
			Telegraph messenger.....	3 weeks.....	
			Packing games, factory.....	3 weeks.....	
15	Eighth.....	15	Floor boy, department store.....	1 year 2 months.	1 month.

DETAILED TABLE G.—*Springfield: Children 14 and 15 years of age to whom employments certificates had been issued prior to May 1, 1921, who were unemployed February 1, 1922—Continued.*

## BOYS—Continued.

Age.	Grade completed.	Length of time since child first went to work (months).	Jobs held.	Length of time in each job.	Interval between leaving last job and Feb. 1, 1922.
15	Seventh.....	18	Packing bobbins..... Delivery boy..... Tending spools, textile mill..... Delivery boy.....	3 months..... 3 weeks..... 2 months..... 2 months 1 week.....	2 months.
15	Seventh.....	22	Telegraph messenger..... do..... Spring and wire department, factory..... Errand boy and helper, shoe repair..... Telegraph messenger..... do..... Delivering orders..... Closing boxes..... Telegraph messenger..... Helper and errands, shoe repair.....	2 weeks..... 1 week..... 2 days..... 4 days..... 1 week..... 2 days..... 2 weeks..... 11 days..... 9 days..... 3 days.....	3 months.
15	Eighth.....	19	Office boy..... Telegraph messenger.....	2 months 1 week..... 2 months 1 week.....	13 months.
15	Eighth.....	16	Assembling games, factory..... do..... Filling envelopes with dye..... Office boy..... Errand boy and helper, shoe repair..... Floor boy and errand boy..... Office boy..... Telegraph messenger.....	3 days..... 6 days..... 6 days..... 3 days..... 1 month 1 week..... 1 week..... 4 months 3 weeks..... 1 month 2 weeks.....	3 months.
15	Eighth.....	17	Cash boy, department store.....	10 months.....	7 months.

## GIRLS.

15	Seventh.....	19	Doffing.....	3 months 3 weeks.....	1 month.
15	First year highschool.	19	Housework at home..... Assembling games, factory.....	2 weeks..... 2 months 2 weeks.....	2 months.
15	Eighth.....	16	Salesgirl..... do..... do..... Threader, knitting mill.....	1 year 2 weeks..... 2 weeks..... 11 months 1 week..... 1 month 3 weeks.....	Less than 1 month.
15	Eighth.....	18	Salesgirl..... Assembling, factory..... Cutting strips, factory..... Housework (not at home).....	1 month..... 1 month 3 weeks..... 2 months 2 weeks..... 1 month 2 weeks.....	Do.
15	Eighth.....	16	Assembling games, factory.....	10 months.....	6 months.
15	Eighth.....	21	Doffing..... Winding, mill..... Doffing.....	2 weeks..... 4 months..... 7 months.....	9 months.
15	Eighth.....	16	do.....	6 months.....	10 months.
15	Sixth.....	16	Turning in, factory.....	4 months 2 weeks.....	11 months.
15	Fifth.....	21	Bending in, factory..... Paper box factory..... Light packing..... Housework at home.....	4 months..... 1 month 3 weeks..... 2 weeks..... 1 month 3 weeks.....	Do.
15	Eighth.....	15	Salesgirl..... do.....	1 week..... 2 months.....	12 months.

DETAILED TABLE G.—*Springfield: Children 14 and 15 years of age to whom employment certificates had been issued prior to May 1, 1921, who were unemployed February 1, 1922—Continued.*

## GIRLS—Continued.

Age.	Grade completed.	Length of time since child first went to work (months).	Jobs held.	Length of time in each job.	Interval between leaving last job and Feb. 1, 1922. <sup>1</sup>
15	Fourth.....	14	Buttoning coats, coat supply company....	2 months 2 weeks.	12 months.
15	Ninth.....	19	Stock clerk, department store.....	6 months 2 weeks.	Do.
15	Eighth.....	14	Book binding, bindery company.....	3 weeks.....	14 months.
15	Ninth.....	15	Salesgirl.....	3 weeks.....	Do.
15	Ninth.....	19	Assembling, factory.....	3 months 2 weeks.	15 months.
15	Ninth.....	19	Salesgirl.....	1 month.	
15	Ninth.....	19	Stocking rubbers, stock room.....	2 months.....	16 months.
15	Sixth.....	22	Salesgirl.....	2 weeks.....	17 months.
			Threader, knitting mill.....	1 month 1 week.	
			Covering clasps, factory.....	2 months 1 week.	
15	Seventh.....	21	Packer.....	1 month 1 week.	18 months.
			Sewing, factory.....	1 month.	



## SUMMARIES OF CONDITIONS BY DISTRICTS.

The agents who visited the families of unemployed men were requested to sum up briefly the outstanding features of the conditions in the districts assigned them. The descriptions that follow, relating to districts in Racine, are given in the words of the agents. They all tell the same story—families overburdened by debts, discouraged by long seeking for work, their ambitions for owning their homes doomed to failure, and illness and unaccustomed dependence on charitable aid.

**DISTRICT 1.** The houses were mostly one and two story frame, in good repair, and well kept up. There was usually only one family to a house. Sometimes one family lived in the front of the house and one in the rear. The houses all had electric lights, running water, and indoor toilets. All the houses had small yards, and many had also a small garden. Several had a garage on the back of the lot.

The 37 families visited in this district represented eleven nationalities, but nearly all spoke English. The majority of the families interviewed had never before been in such difficult circumstances financially. They were families who had always made enough money to keep their bills paid up, and perhaps to put a little in the bank. Following the outbreak of war, when wages were very good, many of the families bought homes. In many cases rents were so high that they were practically forced to do this, and they bought homes that cost very much more than they would otherwise have felt justified in paying. The initial cash payment was often not more than \$100 or \$200 on a \$3,000 property, the buyer contracting to make monthly payments of from \$20 to \$30 or \$40, part of which applied on the principal of the mortgage, the rest covering interest charges. The families felt able to carry such an undertaking successfully while the father was holding a steady job; but as soon as he was thrown out of work, they fell behind in the payments. Many families were on the verge of losing their homes because they could not meet the payments. Many were confident that as soon as the fathers could go back to work they would get on their feet again.

Some of the men felt that the situation was quite hopeless. They said they were forced to sit around idle while the debts piled up, and they were getting so deeply into debt it would take years to get even again. All they wanted was an opportunity to get work. They did not ask or want charity, but merely a chance to earn an honest living.

Most of the families were running up large bills at the grocery and the meat market, had borrowed money wherever they could, and

were doing everything to keep from asking for charitable aid, or even for credit from the city commissary.

During and just after the war, when the wages were high the majority of the people were enjoying such successful times, and were so sure that the conditions would continue indefinitely, or at least for several years longer, that the standard of living was raised. When the change came it was especially hard for all these people.

**DISTRICT 2.** The conditions here were less favorable than those in the first district. The district included some houses around the factories, also some along the railroad, and ran out to the city limits. The houses in the manufacturing section of the district were one and two story tumble-down frame houses, with two or more families to a house. Beyond this section was a good residential neighborhood composed of one and two story frame houses, usually with one family to a house. The majority of the 23 families scheduled were foreign born. Most of them spoke English, though some rather brokenly.

More of the families in this district rented their homes than in district 1, but those who had undertaken to buy houses were facing the same problem of back payments. The standard of living was not so high as in the first district, and more families had asked for aid from the relief society.

Employment for women seemed as scarce as for the men. Several of the women said that they had walked the streets trying to find work to do. Very few of the children over 16 were working, because there was no work to be had. As a result, some were going to continuation school every day, and one or two to business college.

The situation in regard to debts was the same as in the first district. When they could get no further credit from their own grocery they were obliged to go to the factory commissary or to the relief society. Most of the men spoke very highly of their former employers, and felt that they had tried to do the squarest thing. They said they did not know what they would have done if the company had not loaned them money and sold them groceries on credit.

**DISTRICT 3** was a good neighborhood next to the best residence district of the town. The houses were all of much the same type—two-story frame structures, most of which had electric lights, gas for cooking, storm windows and doors, and inside water closets, but very few had bathrooms. Many families had tacked tar paper securely over the front door, which was therefore closed for the winter. Few houses had furnace heat; in some the gas had been turned off, and the families were using coal stoves for cooking because they furnished heat as well. All the houses had yard space, and most of the families had gardens. A few kept chickens.

With but few exceptions the families were thrifty people who were trying hard to pay for their homes and educate their children. There

were several instances where special pride was shown over the progress of the children in school. One mother said her daughter was walking to and from school, 15 blocks, four times a day and would not miss a day for anything, even though the weather was very severe and the child had insufficient clothing. Another child in the same family told her mother she wished she could go to school on Saturday, too. In one family the father was spending \$15 a month, the amount he received from rental of rooms, to pay the expenses of the son in business college. As a whole, the children seemed to be advanced in school. One small girl was teaching English to her father. Two fathers were attending night schools and studying English. A few of the older children were working and attending the continuation school. Most of the families, however, had no children of working age.

A high percentage of the people in the district were receiving charitable aid or buying on promissory notes from the city commissary. They all seemed to be in very similar positions. A great majority had begun to buy their homes when they were "making good money" and had paid fairly high prices. Then they lost their jobs and as a consequence were not only unable to meet the monthly payments but had to ask aid to secure food and clothes. Very few families had received aid before the present unemployment period. The conditions seemed the more lamentable, because so many had been in a position to acquire their homes, educate their children, and bring them up to be good citizens. No case of mortgage foreclosure was found, but this was probably due to the fact that the holders felt there was nothing to be gained thereby. Real estate prices had declined, and they probably would not get so good a price again, especially since people were not in a position to buy at any price.

Many of the families were without sufficient clothes for the winter. Most who had received any had got them through the central association. Two mothers had been able to make coats and shirts for the children from clothes given them by neighbors, and one mother had laid in a supply of materials while the father was working; all she lacked was shoes. One mother was keeping a child home from school because of lack of shoes. She said she had not the 14 cents for carfare to get to the aid society's office to ask for shoes, and if she did go they would probably not have any to give. One family, which from outside appearances seemed to be in more fortunate circumstances than most of the families visited, had almost nothing in their house, and the children were clothed only in very ragged underwear and old coats. One mother had a 2-weeks-old baby for whom she had no clothes. Shiftlessness seemed to be the keynote in only two families. In one the father had been in the State prison for 11 months;

the mother received aid during this time. The other family was an old charity case; the children begged on the streets and were noted for playing truant from school.

There had been something of an epidemic of scarlet fever and diphtheria within the last year and a half. One mother said it seemed as if everything had struck them at once. One of her children was just recovering from pneumonia and another was in the isolation hospital with scarlet fever. Most families reported children's diseases. In three families visited the mothers were especially miserable. One mother was pregnant and could not afford a doctor, and was feeling very bad. Another mother had great trouble with her nose, head, and throat. She looked very ill and said she thought she would have to go to the hospital.

DISTRICT 4. This district was an old residence section with several large factories, and was cut through by two or three long business streets and the railroad tracks. The houses were one or two stories high, a few were of brick, but the majority were of frame construction; many needed painting, but most of them were otherwise in good repair. Only a few of the houses were equipped with bathrooms, but nearly all had inside toilets, either within the apartment itself, or in the hall or basement. A few homes were heated by furnaces, the rest by coal stoves; nearly all had either gas or electric lights. The sizes of the lots varied. The older houses had front, side, and back yards, with space for gardens; the newer ones were built close together, with only narrow passages between and front entrances on the sidewalk.

The population of this district was largely foreign, with a scattering of American born. The nationalities most common were Polish, Bohemian, Russian, German, Lithuanian, Hungarian, and Italian. During the past year a number of Armenians had come in—families in which the mother and children had come to America during the last 12 months, worn and broken by years of suffering in Armenia. These families were highly spoken of by the relief society, for they demanded so little—scarcely enough for their own good.

Over half the families visited in this district were buying their homes on "land contract," which entailed a small initial deposit, and monthly payments of from \$15 to \$50, which included the interest on the mortgage and a small payment on the principal. About two-thirds of them began buying their houses during the war, when wages were high and work was plentiful. A few had borrowed money to keep up their payments, but the majority were behind from one month to one year, and if relief did not come soon, were likely to lose everything they had put into the venture. None of the families visited had lost their homes so far, though one family had had to make a rather unusual and complicated trade, contracting for a more expensive house, in order not to lose the \$2,000 already invested.

Local grocers, butchers, and bakers had given credit to the limit. Families owed as much as \$200 to one grocer, and many had run bills in several different places. Everyone was utterly discouraged, with no hope for the future. The situation was getting desperate. People could not keep their homes much longer without making payments; credit was exhausted, and many families had already gone into debt at the city or factory commissary. Many felt beyond all hope of ever getting clear of debt.

DISTRICT 5. The common type of house in this district was the small one-story frame cottage, with no modern improvements except, sometimes, gas for lighting. Few had electricity and very few had bathrooms; some toilets were in the basement, but often they were outdoors. Of the two-story houses, many accommodated a family on each floor, the second floor being reached by a rear stairway leading to the kitchen.

In the eastern section of this district most of the homes visited were of better construction, had gas and electricity and were located on paved streets with sidewalks and were easily accessible to stores, schools, and churches. Many were owned, but a few were rented. In one part of this section there were many different factories and several large lumberyards, which with the railroad tracks made it an undesirable neighborhood in which to reside.

In the extreme west of this district was a new subdivision in which a few of the scheduled families lived. Here was found a much better type of house—two-story one-family dwellings, modern up-to-date homes with good yards, which were on paved streets with sidewalks. Most of these were being bought on the monthly payment system and were really more expensive than the families would have bought had they not been forced to buy them during the time of scarcity of houses. Some had lost their homes through failure to pay the monthly installments.

A dozen different nationalities were represented in this district, many of whom spoke their native tongue in the home, although in all the families either the mother or the father, or both, could speak English.

In most of the families visited in this district the father had been unemployed so long that, while the standard of living in regard to housing conditions had not been reduced very generally, in most cases there had been a decided lowering in the quantity and quality of food and clothes, and all recreation had been eliminated. In many homes the kitchen was the most used room because during the winter it was the only one which could be kept heated. Most of the homes were fairly clean. Possibly there had not been much change in the general attention given to the home, except in a few cases where the mother had been working. In the greater number of

families it seemed very apparent that no special attention was given to the preparation and serving of meals. Many times the agent was at homes where the children came from school at noon. They would help themselves to whatever was available, seeming to be perfectly contented not to sit down to a prepared meal.

In many homes signs were placed in the windows advertising "Furniture for sale," "Baby carriage for sale," "Plain sewing done," "Day work wanted," "Shoe repairing neatly done," in addition to "Furnished room" signs, and there were other indications that families were trying in every way to earn something. Not many of these families had gardens; in most cases this was due to lack of space. A few had chickens. Many families had held out as long as they were able by running bills at stores, but at the time of the visit they had had to seek assistance from relief organizations and through them were obtaining supplies from the city commissary, payment for which was to be made when the men were again employed.

The conditions which seemed appalling were found in the families of native-born fathers, some of whom had lived all their lives in the city or its vicinity, and who were ambitious and industrious and most anxious for work but who had been out of work for more than one year. They were held here because of lack of money to go elsewhere, because they wished to keep the children in school, or because they were buying a house. The foreign-born men who had lived many years in the city and who had made high wages during the war, but who had saved little because of high prices, faced similar situations. Some of the men who lived in this district were skilled workers, many were laborers, and very few were casual laborers. The impression gained from talking to many of the fathers was that they were a self-respecting set of men, who wished work in order to keep their homes and families and to give their children the best that they were able to. Very few instances were found in which mothers or children were working, for there was not any more work for them than there was for the men.

DISTRICT 6 was on the whole better off than the preceding one. Part of it was in a new subdivision which had recently been added to the city. Here were located story-and-a-half and two-story frame houses, pleasantly situated on well-paved and well-lighted streets. Most of these homes were quite new and were being purchased by families on the "land contract system"—that is, payment by monthly installments which included interest and a small payment on the principal. Many families were still living in houses purchased in this way; only a few had lost them, but many others felt that before long the real estate company would force them to vacate for non-payment of installments. Homes in this district were mostly furnace heated; they had gas, electricity, and plumbing facilities, except a

very few which were so close to the city limits that such improvements had not reached them. These most distant homes were rather inaccessible to street cars and stores, but schools and churches were being built near by. The part of the district nearer to the city was a fairly good neighborhood of frame dwellings, some one-family and many two-family homes. It was much more convenient to cars, stores, schools, and churches, and was also near many of the large factories. These homes were not new, but most of them had heating and plumbing systems and gas.

The population of this district included people of 15 different nationalities, among them a large number of American born. Despite the varied population nearly all the parents could speak English; only in very few cases did the foreign born continue to speak in the native tongue. Especially in families in which there were children going to school and also in those in which the father or both parents had attended night school was English spoken.

Most of the homes in this district were comfortably furnished, and the families were striving hard to keep up appearances. Many had gone the limit in running bills and as a last resort had had to seek aid from relief organizations. New clothing they could do without, but food they had to have. These families were securing supplies through the city commissary, payment for which was to be made when the fathers were reemployed. Many had small gardens and kept chickens, which had furnished some food for them during the stringent times.

All the children seen appeared to be strong and healthy, although the mothers often remarked that their faces were fat, but their bodies very thin. There was very little illness reported during this period of unemployment. Most of the children scheduled seemed to be up to standard in their grades, and some even above. The father's unemployment seemed to have had very little effect on the schooling of the children.





---

---

## APPENDIXES.

---

---



# APPENDIX A.—TABLES.

TABLE 1.—*Racine: Duration of unemployment of father and last regular occupation.*

Father's last regular occupation.	Unemployed fathers.					
	Total.	Duration of unemployment.				
		Less than 6 months.	6 to 8 months.	9 to 11 months.	12 to 14 months.	15 months and over and not reported.
Total.....	231	7	31	28	95	170
Laborer.....	49	1	7	9	21	11
Molder and caster.....	34	.....	7	4	14	9
Machinist.....	32	2	5	5	9	11
Assembler.....	13	.....	2	1	6	4
Machine operative.....	11	.....	1	1	5	4
Blacksmith, forge, and hammer man.....	7	1	.....	2	3	1
Trucker and driver.....	7	.....	1	2	3	1
Coremaker.....	5	.....	.....	1	2	2
Mechanic.....	5	.....	.....	1	2	2
Tool and pattern maker.....	4	.....	.....	1	2	1
Bench worker.....	3	.....	.....	.....	1	2
Blacksmith's helper.....	3	.....	.....	.....	3	.....
Painter, varnisher, and sander.....	3	.....	1	.....	1	1
Riveter.....	3	1	.....	.....	2	.....
Welder.....	3	.....	.....	.....	1	2
Filer, polisher, and buffer.....	2	.....	.....	.....	2	.....
Miscellaneous mechanical and manufacturing.....	29	.....	5	1	10	13
Other.....	18	2	2	.....	8	6

<sup>1</sup> Includes 3 fathers for whom duration of unemployment was not reported.

TABLE 2.—*Springfield: Duration of unemployment of father and last regular occupation.*

Father's last regular occupation.	Unemployed fathers.					
	Total.	Duration of unemployment.				
		Less than 6 months.	6 to 8 months.	9 to 11 months.	12 to 14 months.	15 months and over and not reported.
Total.....	135	13	34	20	36	132
Machinist.....	33	.....	6	4	13	10
Laborer in factory.....	9	.....	2	1	3	3
Painter.....	7	1	2	1	1	2
Laborer, other.....	6	1	3	.....	2	.....
Molder and caster.....	5	.....	1	1	2	1
Trucker and driver.....	5	1	1	1	.....	2
Tool and pattern maker.....	5	1	1	.....	2	1
Assembler.....	4	.....	2	.....	1	1
Clerical.....	4	.....	2	.....	.....	2
Machine operative.....	4	.....	.....	2	1	1
Mechanic.....	4	.....	3	.....	1	.....
Filer, polisher, and buffer.....	3	.....	1	2	.....	.....
Miscellaneous mechanical and manufacturing.....	39	6	8	7	10	8
Other.....	7	3	2	1	.....	1

<sup>1</sup> Includes 7 fathers for whom duration of unemployment was not reported.

TABLE 3.—*Racine: Country of birth of unemployed fathers, by length of residence in United States and work status.*

Country of birth.	Total unemployed fathers.	Fathers previously employed at skilled trade.						
		Total.	Length of residence in United States.					
			5 to 9 years.	10 to 14 years.	15 to 19 years.	20 years and over.	Born in United States.	Not reported.
Total.....	231	170	14	34	44	34	43	1
United States.....	52	43	.....	.....	.....	.....	43	.....
Armenia.....	6	2	.....	1	.....	1	.....	.....
Austria.....	14	11	2	4	2	3	.....	.....
Canada.....	1	1	.....	.....	.....	1	.....	.....
Czechoslovakia.....	21	14	3	4	5	2	.....	.....
Denmark.....	13	10	.....	.....	4	6	.....	.....
England.....	2	2	.....	.....	2	.....	.....	.....
Germany.....	7	5	.....	.....	.....	5	.....	.....
Holland.....	1	1	1	.....	.....	.....	.....	.....
Hungary.....	8	6	.....	2	4	.....	.....	.....
Ireland.....	1	1	.....	1	.....	.....	.....	.....
Italy.....	13	7	1	1	2	3	.....	.....
Yugoslavia.....	3	2	.....	.....	1	1	.....	.....
Lithuania.....	21	15	1	5	7	2	.....	.....
Norway.....	4	4	.....	3	.....	1	.....	.....
Poland.....	38	32	4	9	14	5	.....	.....
Russia.....	22	11	2	4	3	1	.....	1
Sweden.....	3	3	.....	.....	.....	3	.....	.....
Turkey.....	1	.....	.....	.....	.....	.....	.....	.....

Country of birth.	Fathers previously employed at unskilled trade.						
	Total.	Length of residence in United States.					
		Less than 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 years and over.	Born in United States.
Total.....	61	1	11	19	15	6	9
United States.....	19	.....	.....	.....	.....	.....	9
Armenia.....	4	.....	2	2	.....	.....	.....
Austria.....	3	.....	.....	1	.....	2	.....
Czechoslovakia.....	7	.....	1	3	13	.....	.....
Denmark.....	3	1	.....	1	1	.....	.....
Germany.....	2	.....	.....	1	.....	1	.....
Hungary.....	2	.....	.....	1	.....	.....	.....
Italy.....	6	.....	2	2	2	.....	.....
Yugoslavia.....	1	.....	.....	1	.....	.....	.....
Lithuania.....	6	.....	1	3	2	.....	.....
Poland.....	6	.....	1	2	1	2	.....
Russia.....	11	.....	3	2	5	1	.....
Turkey.....	1	.....	1	.....	.....	.....	.....

<sup>1</sup>Includes 1 "casual worker."

TABLE 4.—*Springfield: Country of birth of unemployed fathers, by length of residence in United States and work status.*

Country of birth.	Total unemployed fathers.	Fathers previously employed at skilled trade.						
		Total.	Length of residence in United States.					
			Under 5 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 years and over.	Born in United States.
Total.....	135	111	2	4	11	17	27	50
United States.....	62	50						50
Armenia.....	3	3			1	1	1	
Austria.....	2	2		1			1	
Canada.....	9	8			1	1	6	
Czechoslovakia.....	2	2			1	1		
England.....	1	1				1		
Finland.....	3	3	1			1	1	
France.....	1	1					1	
Germany.....	1	1					1	
Greece.....	2	2		1	1			
Ireland.....	8	6		2		1	3	
Italy.....	14	10		1	2	2	5	
Lithuania.....	2	2			1		1	
Poland.....	10	8		1	1	4	2	
Russia.....	3	2			1	1	1	
Scotland.....	2	2	1			1		
Sweden.....	7	7				3	4	
Syria.....	2							
Turkey.....	1							

Country of birth.	Total unemployed fathers.	Fathers previously employed at unskilled trade.						
		Total.	Length of residence in United States.					
			5 to 9 years.	10 to 14 years.	15 to 19 years.	20 years and over.	Born in United States.	Not reported.
Total.....	135	24	2	3	3	3	12	1
United States.....	62	12					12	
Armenia.....	3							
Austria.....	2							
Canada.....	9	1				1		
Czechoslovakia.....	2							
England.....	1							
Finland.....	3							
France.....	1							
Germany.....	1							
Greece.....	2							
Ireland.....	8	2			1	1		
Italy.....	14	4		2		1		1
Lithuania.....	2							
Poland.....	10	2	1		1			
Russia.....	3							
Scotland.....	2							
Sweden.....	7							
Syria.....	2	2	1	1				
Turkey.....	1	1			1			

<sup>1</sup> Includes 2 casual workers.

TABLE 5.—*Racine: Literacy and nativity of father, by duration of unemployment of father.*

Literacy and nativity of father.	Unemployed fathers.					
	Total.	Duration of unemployment.				
		Less than 6 months.	6 to 8 months.	9 to 11 months.	12 to 14 months.	15 months and over.
Total.....	231	7	31	28	95	70
Native born.....	52	3	5	8	24	12
Literate.....	52	3	5	8	24	12
Foreign born.....	179	4	26	20	71	58
Literate.....	154	4	23	15	63	49
English only.....	5	.....	1	.....	.....	4
Native language only <sup>1</sup> .....	78	1	10	6	36	25
Both.....	71	3	12	9	27	20
Illiterate.....	22	.....	3	4	8	7
Literacy not reported.....	3	.....	.....	1	.....	2

<sup>1</sup> I. e., other than English.TABLE 6.—*Springfield: Literacy and nativity of father, by duration of unemployment of father.*

Literacy and nativity of father.	Unemployed fathers.					
	Total.	Duration of unemployment.				
		Less than 6 months.	6 to 8 months.	9 to 11 months.	12 to 14 months.	15 months and over.
Total.....	135	13	34	20	36	32
Native born.....	62	7	18	10	14	13
Literate.....	62	7	18	10	14	13
Foreign born.....	73	6	16	10	22	19
Literate.....	67	6	13	9	20	19
English only.....	2	2	.....	.....	.....	.....
Native language only <sup>1</sup> .....	18	.....	4	1	5	8
Both.....	47	4	9	8	15	11
Illiterate.....	5	.....	2	1	2	.....
Literacy not reported.....	1	.....	1	.....	.....	.....

<sup>1</sup> I. e., other than English.TABLE 7.—*Racine: Citizenship of foreign-born unemployed fathers, by length of residence in the United States.*

Length of residence in United States.	Foreign-born fathers.			
	Total.	Citizens.	Not citizens.	Not citizens but having first papers.
Total.....	179	76	34	69
Under 5 years.....	1	.....	.....	1
5-9 years.....	25	5	11	9
10-14 years.....	52	12	12	28
15-19 years.....	60	23	10	27
20-24 years.....	20	16	.....	4
25 years and over.....	20	19	1	.....
Not reported.....	1	1	.....	.....

TABLE 8.—*Springfield: Citizenship of foreign-born unemployed fathers, by length of residence in the United States.*

Length of residence in the United States.	Foreign-born fathers.			
	Total.	Citizens.	Not citizens.	Not citizens, but having first papers.
Total.....	73	35	22	16
Under 5 years.....	2	1	1	2
5-9 years.....	6	1	4	1
10-14 years.....	14	7	2	5
15-19 years.....	20	9	7	4
20-24 years.....	15	7	5	3
25 years and over.....	15	11	3	1
Not reported.....	1	.....	1	.....

TABLE 9.—*Racine: Tenure of homes occupied by families of unemployed men, by duration of occupancy.*

Duration of occupancy.	Families of unemployed men. •				
	Total.	Tenure of home.			Rented.
		Owned.			
		Total.	Free.	Mortgaged.	
Total.....	231	145	9	136	86
10 years and over.....	10	9	2	7	1
5-9 years.....	39	32	5	27	7
4 years.....	15	6	1	5	9
3 years.....	33	30	1	29	3
2 years.....	40	33	.....	33	7
1 year.....	36	25	.....	25	11
6-11 months.....	23	3	.....	3	20
Less than 6 months.....	28	2	.....	2	26
Time not reported.....	7	5	.....	5	2

TABLE 10.—*Springfield: Tenure of homes occupied by families of unemployed men, by duration of occupancy.*

Duration of occupancy.	Families of unemployed men.		
	Total.	Tenure of home.	
		Owned. <sup>1</sup>	Rented.
Total.....	135	28	107
10 years and over.....	7	4	3
5-9 years.....	20	6	14
4 years.....	13	1	12
3 years.....	12	4	8
2 years.....	20	4	16
1 year.....	25	6	19
6-11 months.....	16	1	15
Less than 6 months.....	18	.....	18
Time not reported.....	4	2	2

<sup>1</sup> All owned homes were mortgaged.

TABLE 11.—*Racine: Monthly rental of families occupying rented houses during father's unemployment, by number of rooms in house.*



TABLE 14.—*Springfield: Number of persons in households of unemployed men, by number of rooms in house.*

Number in household.	Families of unemployed men.								
	Total.	Number of rooms in house.							
		1	2	3	4	5	6	7	8 and over.
Total.....	135	1	2	11	28	49	26	11	7
4.....	29	1	1	3	10	13	1		
5.....	28		1	4	4	8	6	4	1
6.....	28			3	5	12	4	3	1
7.....	20				8	5	5	2	
8.....	16			1		8	4	2	1
9.....	3				1		2		
10.....	7					3	1		3
11.....	3						3		
13.....	1								1

TABLE 15.—*Racine: Monthly rental at time of study of families of unemployed men, by monthly rental previous to unemployment.*

Present rental and whether family have moved since unemployment.	Families of unemployed men.										
	Total.	Rental same as present.	Renting prior to unemployment.							Rental not re-ported.	Not renting.
			Rental different from present.								
			Total.	Less than \$10.	\$10, less than \$15.	\$15, less than \$20.	\$20, less than \$25.	\$25, less than \$30.	\$30, and over.		
Total.....	231	28	52	2	7	17	12	4	10	3	148
Moved.....	55	4	43	2	7	14	9	4	7	1	7
Less than \$10.....	4	1	3	1	2	.....	.....	.....	.....	.....	.....
\$10, less than \$15.....	15	.....	14	1	2	7	2	1	1	1	.....
\$15, less than \$20.....	17	1	15	.....	1	4	3	2	5	.....	1
\$20, less than \$25.....	8	2	5	.....	.....	2	2	1	.....	1	.....
\$25, less than \$30.....	4	.....	2	.....	1	.....	.....	.....	1	.....	2
\$30 and over.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Not renting.....	5	.....	4	.....	1	1	2	.....	.....	.....	1
Did not move.....	176	24	9	.....	.....	3	3	.....	3	2	141
\$10, less than \$15.....	13	9	2	.....	.....	1	1	.....	.....	2	.....
\$15, less than \$20.....	19	14	5	.....	.....	2	2	.....	1	.....	.....
\$20, less than \$25.....	2	.....	1	.....	.....	.....	.....	.....	1	.....	1
\$25, less than \$30.....	1	.....	1	.....	.....	.....	.....	.....	1	.....	.....
\$30 and over.....	1	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
Not renting.....	140	.....	.....	.....	.....	.....	.....	.....	.....	.....	140

<sup>1</sup> Owned house previous to unemployment, later rented.

TABLE 16.—*Springfield: Monthly rental at time of study of families of unemployed men, by monthly rental previous to unemployment.*

	Families of unemployed men.									
Present rental and whether family have moved since unemployment.	Total fami- lies.	Renting prior to unemployment.							Not rent- ing.	
		Rental same as present.	Rental different from present rental.							Rental not reported.
			Total.	\$10, less than \$15.	\$15, less than \$20.	\$20, less than \$25.	\$25, less than \$30.	\$30 and over.		
Total .....	135	57	38	5	15	7	4	7	13	27
Moved.....	30	5	19	3	7	4	.....	5	5	1
Less than \$10. ....	1	.....	.....	.....	.....	.....	.....	.....	1	.....
\$10, less than \$15. ....	3	.....	2	1	1	.....	.....	.....	1	.....
\$15, less than \$20. ....	5	1	4	1	2	1	.....	.....	.....	.....
\$20, less than \$25. ....	7	2	4	.....	2	2	.....	.....	1	.....
\$25, less than \$30. ....	11	2	7	1	2	1	.....	3	1	1
\$30 and over .....	2	.....	2	.....	.....	.....	.....	2	.....	.....
Not renting .....	1	.....	.....	.....	.....	.....	.....	.....	1	.....
Did not move.....	104	51	19	2	8	3	4	2	8	26
Less than \$10. ....	1	.....	.....	.....	.....	.....	.....	.....	1	.....
\$10, less than \$15 .....	11	7	2	2	.....	.....	.....	.....	2	.....
\$15, less than \$20 .....	20	12	5	.....	3	1	1	.....	3	.....
\$20, less than \$25 .....	25	16	7	.....	4	2	1	1	2	.....
\$25, less than \$30 .....	13	10	3	.....	1	.....	1	1	.....	.....
\$30 and over .....	7	6	1	.....	.....	.....	1	.....	.....	.....
Not renting .....	27	.....	1	.....	.....	.....	.....	1	.....	26
Not reported .....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....
\$10, less than \$15. ....	1	1	.....	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> Rented house previous to unemployment, later owned.

TABLE 17.—*Racine: Total resources of family during father's unemployment, by duration of unemployment and ownership of home.*

Duration of unemployment and ownership of home.	Families of unemployed men.											
	Total resources during father's unemployment.											
	Total.	\$100, less than \$200.	\$200, less than \$300.	\$300, less than \$400.	\$400, less than \$500.	\$500, less than \$600.	\$600, less than \$700.	\$700, less than \$800.	\$800, less than \$900.	\$900, less than \$1,000.	\$1,000 and over.	Not reported.
Total.....	231	3	3	5	6	10	7	10	11	7	38	131
Owned free from mortgage.	9					1					2	6
6-7 months.....	1											1
7-8 months.....	1											1
11-12 months.....	1											1
12-13 months.....	1											1
14-15 months.....	2					1						1
15-17 months.....	3										2	1
Mortgaged.....	136	3	2	1	4	5	2	6	6	2	21	84
Less than 4 months.....	1	1										1
5-6 months.....	3	1									1	1
6-7 months.....	1											1
7-8 months.....	7	1	1				1		1			3
8-9 months.....	13			1	2	2				1		7
9-10 months.....	5											5
10-11 months.....	4				1	1						2
11-12 months.....	4							1				3
12-13 months.....	27					1	1	3		1	7	14
13-14 months.....	13		1		1				1			10
14-15 months.....	18					1					5	12
15-22 months.....	37							2	4		8	23
Not reported.....	3											3
Rented.....	86		1	4	2	4	5	4	5	5	15	41
Less than 4 months.....	1										1	
5-6 months.....	2			1					1			
6-7 months.....	1											1
7-8 months.....	3		1									2
8-9 months.....	4			1	1		1		1			
9-10 months.....	5			2		1						2
10-11 months.....	4					1			1	1		1
11-12 months.....	5										1	4
12-13 months.....	12				1	1	3	1			2	4
13-14 months.....	11								1	1	2	7
14-15 months.....	11					1	1					9
15-18 months.....	27							3	1	3	9	11

TABLE 18.—*Springfield: Total resources of family during father's unemployment, by duration of unemployment and ownership of home.*

Duration of unemployment and ownership of home. <sup>1</sup>	Families of unemployed men.											
	Total.	Total resources during father's unemployment.										
		Less than \$100.	\$100, less than \$200.	\$200, less than \$300.	\$300, less than \$400.	\$400, less than \$500.	\$500, less than \$600.	\$600, less than \$700.	\$700, less than \$800.	\$800, less than \$900.	\$1,000 and over.	Not reported.
Total.....	135	2	1	2	3	4	3	2	2	1	17	98
Mortgaged.....	28	1	1	.....	.....	1	.....	.....	.....	1	5	19
Less than 4 months.....	3	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
4-7 months.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1
7-8 months.....	4	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	3
8-9 months.....	4	.....	1	.....	.....	.....	.....	.....	.....	1	.....	2
9-10 months.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
10-11 months.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
11-12 months.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
13-14 months.....	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4
14-15 months.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	4
15-19 months.....	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rented.....	107	1	.....	2	3	3	3	2	2	.....	12	79
Less than 4 months.....	6	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	5
4-5 months.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
5-6 months.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
6-7 months.....	8	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	7
7-8 months.....	11	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	10
8-9 months.....	5	.....	.....	.....	1	.....	.....	.....	1	.....	.....	3
9-10 months.....	10	.....	.....	.....	1	.....	1	1	.....	.....	1	6
10-11 months.....	5	.....	.....	.....	.....	.....	1	.....	.....	.....	1	3
11-12 months.....	2	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1
12-13 months.....	6	.....	.....	.....	.....	.....	1	.....	.....	.....	4	4
13-14 months.....	15	.....	.....	.....	.....	1	.....	.....	.....	.....	1	10
14-15 months.....	10	.....	.....	.....	.....	1	.....	.....	1	.....	2	6
15-25 months.....	18	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	15
Not reported.....	7	1	.....	.....	1	.....	.....	.....	.....	.....	.....	5

<sup>1</sup> No homes were owned free from mortgage.TABLE 19.—*Sources of income during unemployment in families of unemployed men, by city.*

Sources of income during unemployment.	Families of unemployed men having each specified source of income.					
	Total.		Racine.		Springfield.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	366	100.0	231	100.0	135	100.0
Father's earnings from temporary work...	362	98.9	229	99.1	133	98.5
Mother's earnings.....	115	31.4	65	28.1	50	37.0
Children's earnings.....	75	20.5	46	19.9	29	21.5
Income from lodgers, boarders, or relatives	.....	.....	.....	.....	.....	.....
lodging or boarding with family.....	56	15.3	42	18.2	14	10.4
Income from rent.....	60	16.4	46	19.9	14	10.4
Aid from relatives.....	38	10.4	14	6.1	24	17.8
Charitable aid.....	191	52.2	141	61.0	50	37.0
Credits for food.....	240	65.6	187	81.6	53	39.3
Loans.....	117	32.0	97	42.0	20	14.8
Other debts.....	253	69.1	174	75.3	79	58.5
Savings used.....	153	43.2	97	42.0	61	45.2
Other sources.....	15	4.1	2	0.9	13	9.6

TABLE 20.—*Racine and Springfield: Average monthly resources of families of unemployed men prior to unemployment and during unemployment.*

Average monthly resources during unemployment.	Families of unemployed men.						
	Total.	Average monthly resources year prior to unemployment.					
		\$50, less than \$100.	\$100, less than \$150.	\$150, less than \$200.	\$200, less than \$250.	\$250, less than \$300.	Not reported.
Total.....	366	8	55	45	21	2	235
Less than \$30.....	6	.....	1	1	.....	.....	4
\$30, less than \$40.....	12	.....	3	1	1	.....	7
\$40, less than \$50.....	18	1	4	1	1	.....	11
\$50, less than \$60.....	22	.....	6	2	2	.....	12
\$60, less than \$70.....	18	.....	4	2	1	.....	11
\$70, less than \$80.....	10	2	2	.....	.....	.....	6
\$80, less than \$90.....	15	.....	3	4	1	.....	7
\$90, less than \$100.....	7	.....	.....	1	1	.....	5
\$100, less than \$110.....	8	.....	.....	2	1	.....	5
\$110, less than \$120.....	4	.....	1	2	.....	.....	1
\$120, less than \$130.....	3	.....	.....	3	.....	.....	.....
\$130, less than \$140.....	1	.....	.....	1	.....	.....	.....
\$140, less than \$150.....	1	.....	1	.....	.....	.....	.....
\$150 and over.....	10	.....	3	.....	1	1	5
Amount not reported.....	231	5	27	25	12	1	161

TABLE 21.—*Racine: Duration of father's unemployment, by father's total earnings from temporary work during unemployment.*

Father's total earnings from temporary work during unemployment.	Families of unemployed men.													
	Total.	Duration of father's unemployment.												
		Less than 4 mos.	5 mos.	6 mos.	7 mos.	8 mos.	9 mos.	10 mos.	11 mos.	12 mos.	13 mos.	14 mos.	15-22 mos.	Not reported.
Total.....	231	2	5	3	11	17	10	8	10	40	24	31	67	3
No temporary work.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Temporary work.....	229	1	5	3	11	17	10	8	10	40	24	30	67	3
\$10, less than \$25.....	6	.....	.....	.....	4	.....	.....	1	1	2	.....	.....	.....	.....
\$25, less than \$50.....	19	1	.....	2	3	1	2	.....	.....	2	1	2	5	.....
\$50, less than \$75.....	22	.....	1	.....	2	6	.....	1	1	2	1	3	5	.....
\$75, less than \$100.....	13	.....	.....	.....	.....	.....	.....	1	1	1	2	3	5	.....
\$100, less than \$150.....	15	.....	1	.....	2	3	2	.....	.....	2	2	.....	.....	.....
\$150, less than \$200.....	22	.....	.....	.....	1	.....	1	1	1	8	3	2	4	1
\$200, less than \$250.....	10	.....	1	.....	.....	.....	.....	3	.....	3	1	1	1	.....
\$250, less than \$300.....	11	.....	.....	.....	.....	.....	1	.....	.....	1	2	.....	7	.....
\$300, less than \$400.....	12	.....	1	.....	.....	.....	.....	1	.....	2	.....	4	4	.....
\$400, less than \$500.....	6	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	.....	2	.....
\$500 and over.....	21	.....	.....	.....	.....	.....	.....	1	3	3	2	4	10	1
Amount not reported.....	72	1	1	3	3	4	1	5	11	10	11	21	1	.....

		Families of unemployed men.														
Father's total earnings from temporary work during unemployment.	Total.	Duration of father's unemployment.														
		Less than 4 mos.	4 mos.	5 mos.	6 mos.	7 mos.	8 mos.	9 mos.	10 mos.	11 mos.	12 mos.	13 mos.	14 mos.	15-25 mos.	Not re-ported.	
Total.....	135	9	2	2	10	15	9	12	6	2	6	16	14	25	7	
No temporary work..	2		1		1											
Temporary work.....	133	9	1	2	9	15	9	12	6	2	6	16	14	25	7	
Less than \$10.....	3	3														
\$10, less than \$25.....	1								1							
\$25, less than \$50.....	6	1	1					1						2	1	
\$50, less than \$75.....	8	2		1	3			1						1		
\$75, less than \$100.....	9	1			1	1		2			2	1	1			
\$100, less than \$150.....	6	1				1		1	1					1	1	
\$150, less than \$200.....	5						3		1							
\$200, less than \$250.....	7					2	2	1			1			1		
\$250, less than \$300.....	5					2		1				1		1		
\$300, less than \$400.....	10				1	4						1	2	1	1	
\$400, less than \$500.....	7				1	1		1				1	1	2		
\$500 and over.....	21						3	1	2	2	2	4	2	5		
Not reported.....	45	1		1	3	4		4	1		1	8	7	11	4	

[illegible]

TABLE 24.—*Springfield: Number of persons in families of unemployed men, by weekly income at time of study.*

Number of persons in family.	Families of unemployed men.											
	Total.	Weekly income at time of study.										
		Less than \$5.	\$5, less than \$10.	\$10, less than \$15.	\$15, less than \$20.	\$20, less than \$25.	\$25, less than \$30.	\$30, less than \$35.	\$35, less than \$40.	\$40 and over.	Not re-ported.	No weekly income.
Total...	135	4	20	21	18	17	9	11	3	8	4	20
4.....	38	.....	4	3	6	3	4	3	2	1	2	10
5.....	26	2	2	6	3	5	.....	1	1	1	.....	5
6.....	29	.....	6	6	4	5	1	1	.....	2	1	3
7.....	18	2	5	2	3	1	1	1	.....	2	.....	1
8.....	13	.....	1	2	1	3	1	3	.....	1	.....	1
9.....	6	.....	.....	1	1	.....	.....	2	.....	1	1	.....
10.....	3	.....	2	1	.....	.....	.....	.....	.....	.....	.....	.....
11.....	2	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....

TABLE 25.—*Racine and Springfield: Number of children in families in which the average monthly resources during father's unemployment were specified percentages of receipts prior to unemployment, by age of child.*

Age of child.	Children in families in which resources during unemployment represented specified percentage of receipts previous to unemployment.						
	Total children.	10-14 per cent.	15-24 per cent.	25-49 per cent.	50-74 per cent.	75-99 per cent.	100 per cent and over.
Total.....	203	6	13	82	78	12	12
Under 1 year.....	12	2	.....	8	2	.....	.....
1 year.....	14	.....	1	7	4	1	1
2 years.....	13	.....	1	6	5	1	.....
3 years.....	17	1	1	6	8	1	.....
4 years.....	10	.....	.....	5	4	1	.....
5 years.....	20	2	.....	7	8	1	2
6 years.....	14	1	2	6	3	1	1
7 years.....	12	.....	.....	6	5	.....	1
8 years.....	15	.....	3	6	4	2	.....
9 years.....	15	.....	.....	7	5	.....	3
10 years.....	10	.....	2	2	4	2	.....
11 years.....	10	.....	1	3	5	.....	1
12 years.....	10	.....	.....	5	3	1	1
13 years.....	9	.....	2	3	4	.....	.....
14 years.....	7	.....	.....	2	5	.....	.....
15 years.....	6	.....	.....	1	4	.....	1
16 years.....	3	.....	.....	2	1	.....	.....
17 years.....	6	.....	.....	.....	4	1	1

TABLE 26.—*Racine: Average monthly resources during unemployment and estimated budget requirements for families of unemployed men.*<sup>1</sup>

Average monthly resources during unemployment.	Families of unemployed men. <sup>1</sup>					
	Total.	Monthly budget estimate.				
		\$75, less than \$100.	\$100, less than \$125.	\$125, less than \$150.	\$150, less than \$175.	\$175, less than \$200.
Total .....	126	4	60	40	21	1
Less than \$25 .....	4	.....	2	1	1	.....
\$25, less than \$50 .....	32	1	14	10	7	.....
\$50, less than \$75 .....	46	2	27	10	7	.....
\$75, less than \$100 .....	28	1	13	12	2	.....
\$100, less than \$125 .....	11	.....	1	6	3	1
\$125, less than \$150 .....	2	.....	1	.....	1	.....
\$150, less than \$175 .....	3	.....	2	1	.....	.....

<sup>1</sup> Includes only families for which average monthly receipts were reported.TABLE 27.—*Springfield: Average monthly resources during unemployment and estimated budget requirements for families of unemployed men.*<sup>1</sup>

Average monthly resources during unemployment.	Families of unemployed men. <sup>1</sup>						
	Total.	Monthly budget estimate.					
		\$75, less than \$100.	\$100, less than \$125.	\$125, less than \$150.	\$150, less than \$175.	\$175, less than \$200.	\$200, less than \$225.
Total .....	60	1	27	21	8	2	1
Less than \$25 .....	2	1	1	.....	.....	.....	.....
\$25, less than \$50 .....	11	.....	7	4	.....	.....	.....
\$50, less than \$75 .....	17	.....	11	4	2	.....	.....
\$75, less than \$100 .....	19	.....	7	9	3	.....	.....
\$100, less than \$125 .....	8	.....	.....	2	3	2	1
\$125, less than \$150 .....	2	.....	.....	2	.....	.....	.....
\$150, less than \$175 .....	1	.....	1	.....	.....	.....	.....

<sup>1</sup> Includes only families for which average monthly receipts were reported.TABLE 28.—*Racine: Interval elapsing between beginning of unemployment and receiving charitable aid, by previous work status of unemployed men.*

Interval elapsing before receiving charitable aid.	Unemployed fathers.		
	Total.	Skilled and semiskilled workers.	Unskilled workers. <sup>1</sup>
Total .....	231	170	61
Receiving charitable aid .....	141	102	38
Less than 1 month .....	6	4	2
1-2 months .....	33	23	10
3-5 months .....	42	32	10
6-8 months .....	19	14	4
9-11 months .....	12	9	3
12 months and over .....	6	4	2
Interval not reported .....	23	16	7
Not receiving charitable aid .....	90	68	22

<sup>1</sup> Includes 2 fathers who were casual laborers.<sup>2</sup> Includes 1 father whose work status was not reported.



TABLE 20.—*Springfield: Interval elapsing between beginning of unemployment and receiving charitable aid, by previous work status of unemployed men.*

Interval elapsing before receiving charitable aid.	Unemployed fathers.		
	Total.	Skilled and semiskilled workers.	Unskilled workers. <sup>1</sup>
Total.....	2 135	111	21
Receiving charitable aid.....	2 50	39	9
Less than 1 month.....	2 5	4	.....
1-2 months.....	4	2	2
3-5 months.....	6	6	.....
6-8 months.....	5	3	2
9-11 months.....	2	2	.....
Interval not reported.....	28	22	5
Not receiving charitable aid.....	85	72	12

<sup>1</sup> Includes 2 fathers who were casual laborers.<sup>2</sup> Includes 1 father whose work status was not reported.TABLE 30.—*Racine: Amount and duration of charitable aid received by families of unemployed men.*<sup>1</sup>

Amount of charitable aid.	Families receiving charitable aid.							
	Total.	Duration of charitable aid.						
		2 weeks, less than 1 month.	1-2 months.	3-5 months.	6-8 months.	9-11 months.	12 months and over.	Not reported.
Total.....	141	3	11	16	19	58	12	22
Less than \$10.....	11	1	2	.....	1	1	.....	6
\$10, less than \$15.....	6	.....	3	.....	.....	1	1	1
\$15, less than \$25.....	12	.....	2	2	2	5	.....	1
\$25, less than \$50.....	17	1	1	4	1	8	.....	2
\$50, less than \$75.....	13	.....	.....	2	4	7	.....	.....
\$75, less than \$100.....	11	.....	.....	4	3	2	1	1
\$100, less than \$150.....	18	.....	.....	.....	1	14	3	.....
\$150, less than \$200.....	9	.....	.....	.....	1	7	1	.....
\$200 and over.....	17	.....	.....	2	1	7	6	1
Amount not reported.....	19	.....	2	1	4	6	.....	6
Clothing and other aid.....	8	1	1	1	1	.....	.....	4

<sup>1</sup> Excludes 90 families which received no charitable aid.

TABLE 31.—*Springfield: Amount and duration of charitable aid received by families of unemployed men.*<sup>1</sup>

Amount of charitable aid.	Families receiving charitable aid.						
	Total.	Duration of charitable aid.					
		2 weeks, less than 1 month.	1-2 months.	3-5 months.	6-8 months.	9-11 months.	12 months and over.
Total.....	50	2	6	5	2	4	3
Less than \$10.....	5						1
\$10, less than \$15.....	1			1			
\$15, less than \$25.....	6		2	1	1		
\$25, less than \$50.....	2					1	
\$50, less than \$75.....	5				1		
\$75, less than \$100.....	2			1		1	
\$100, less than \$150.....	2			1			1
\$200 and over.....	7			1		1	1
Amount not reported.....	16	1	2			1	
Clothing and other aid.....	3		2				
Nursing service only.....	1	1					

<sup>1</sup> Excludes 85 families which received no charitable aid.TABLE 32.—*Racine: Average number of working hours per week for mothers who worked during father's unemployment, by type of work and place of employment.*

Type of work and whether at home or away from home.	Working mothers.					
	Total.	Average hours per week.				
		Less than 12 hours.	12-23 hours.	24-35 hours.	36-47 hours.	48-59 hours.
Total.....	66	8	10	5	7	5
Working away from home.....	52	7	9	5	6	5
Work by the day.....	30	6	8	4	1	
Laundry work.....	11	4	3			
Cleaning.....	8	1	2	3	1	
Laundry work and cleaning.....	8	1	3			
General housework.....	1					
Not reported.....	2			1		
Factory work.....	12		1		5	4
Sewing.....	2					
Practical nursing.....	2					
Chamber work in hotel.....	1					1
Restaurant work.....	1					
Other.....	4	1		1		
Working at home.....	14	1	1		1	
Sewing.....	6					
Laundry work.....	5	1	1		1	
Keeping store.....	2					
Weaving rag rugs.....	1					

1 One mother also cares for neighbor's boy.

2 Also does washing at home.

3 One mother also keeps lodgers.

4 One mother also does sewing at home.

5 One mother also does cleaning by the day.

6 Works in "Old clothes room" at relief agency.

7 Picking beans.

8 Pulling beets.

TABLE 33.—*Springfield: Average number of working hours per week for mothers who worked during father's unemployment, by type of work and place of employment.*

Type of work and whether at home or away from home.	Working mothers.							
	Total.	Average hours per week.						
		Less than 12 hours.	12-23 hours.	24-35 hours.	36-47 hours.	48-59 hours.	60 hours and over.	Not reported.
Total.....	50	4	11	7	6	7	2	13
Working away from home.....	39	1	11	7	6	7	2	5
Work by the day.....	27	1	11	7	3	3		2
Laundry work.....	3		1	1				
Cleaning.....	5		3	1		1		
Laundry work and cleaning..	9		3	3	2			1
General housework.....	9	1	2	2	1	2		1
Not reported.....	1		1					
Factory work.....	3				2			1
Practical nursing.....	3					1	1	1
Sewing.....	2					1		1
Clerical work.....	1				1			
Pantry work in hotel.....	1						1	
Kitchen work in hotel.....	1					1		
Not reported.....	1					1		
Working at home.....	11	3						8
Sewing.....	6							6
Laundry work.....	4	3						1
Baking bread.....	1							1

<sup>1</sup> One mother also sews at home.<sup>2</sup> One mother also does laundry work at home.TABLE 34.—*Racine and Springfield: Employment of mothers during unemployment period of fathers, by place of employment.*

Place of mother's employment.	Mothers employed.		
	Total.	Before and during unemployment of father.	During unemployment of father but not before.
Total.....	116	26	90
At home.....	25	5	20
Away.....	84	19	65
Both.....	7	2	5



Grade at time of study.

Age and sex.	Total.	Kinder- garden.	First.	Second.	Third.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	High school.				Not reported.
											First year.	Second year.	Third year.	Fourth year.	
Total children...	275	1	22	43	30	41	36	28	17	25	12	6	1	3	10
Boys.....	138		11	22	18	21	17	13	9	13	4	3		1	6
6 years.....	10		5	5											
7 years.....	21		6	1	6										
8 years.....	13			3		4									
9 years.....	16			3											
10 years.....	18			2		6	5								
11 years.....	15			3		1	6	2							
12 years.....	11					1	4		2						2
13 years.....	12					1	1	5	2						1
14 years.....	7					2	1	1	3						1
15 years.....	7						1		1						2
16 years.....	5					1					1			1	1
17 years.....	3										1	2			
Girls.....	137	1	11	21	12	20	19	15	8	12	8	3	1	2	4
6 years.....	13														
7 years.....	18	1	4	8		1									
8 years.....	16		7	5		5									2
9 years.....	13			4		4									1
10 years.....	16			1		7	2								
11 years.....	7					4	7	2							
12 years.....	19					3	5	6	2		1				1
13 years.....	15							5	3		5				
14 years.....	11								2			1			
15 years.....	4								1						
16 years.....	3										2		1		
17 years.....	2											1	1		

TABLE 37.—*Racine and Springfield: Amount of weekly earnings of working children of unemployed men, by age and sex.*

Age and sex.	Working children.					
	Total.	Weekly earnings.				
		Less than \$5.	\$5, less than \$10.	\$10, less than \$15.	\$15 and over.	Wage not reported.
Total.....	45	4	15	17	5	4
Boys.....	27	2	6	12	4	3
15 years.....	8	1	14	12		11
16 years.....	10	1	1	25	12	11
17 years.....	9		1	25	2	11
Girls.....	18	2	9	5	11	1
15 years.....	5	1	4			
16 years.....	6	1	3	1		1
17 years.....	7		2	24	1	

<sup>1</sup> One not working at time of agent's visit.<sup>2</sup> Two not working at time of agent's visit.<sup>3</sup> Three not working at time of agent's visit.TABLE 38.—*Racine: Occupation of working children during father's unemployment, and time of beginning work, by age and sex.*

Latest occupation and time of beginning work.	Working children.								
	Total	Boys.				Girls.			
		Total.	15 years of age.	16 years of age.	17 years of age.	Total.	15 years of age.	16 years of age.	17 years of age.
Total.....	22	10	1	3	6	12	2	5	5
Beginning work before father's unemployment...	9	6	.....	1	5	3	.....	1	2
Office boy or girl.....	3	2	.....	1	11	1	.....	1	.....
Telephone operator.....	1	.....	.....	.....	1	.....	.....	.....	1
Apprentice—garage.....	1	2	.....	.....	1	.....	.....	.....	.....
Factory worker.....	3	2	.....	.....	12	1	.....	.....	1
Occupation not reported.	1	1	.....	.....	11	.....	.....	.....	.....
Beginning work during father's unemployment....	12	3	1	2	.....	9	2	4	3
Housemaid.....	2	.....	.....	.....	.....	2	.....	2	.....
Office boy or girl.....	3	2	1	11	.....	1	.....	1	.....
Telephone operator.....	1	.....	.....	.....	.....	1	.....	.....	1
Sales girl.....	1	.....	.....	.....	.....	1	.....	.....	1
Factory worker.....	5	1	.....	11	.....	4	2	11	11
Not reported.....	1	1	.....	.....	1	.....	.....	.....	.....
Factory worker.....	1	1	.....	.....	11	.....	.....	.....	.....

<sup>1</sup> One not working at time of agent's visit.

TABLE 39.—*Springfield: Occupation of working children during father's unemployment, and time of beginning work, by age and sex.*

Latest occupation and time of beginning work.	Working children.								
	Total.	Boys.				Girls.			
		Total.	15 years of age.	16 years of age.	17 years of age.	Total.	15 years of age.	16 years of age.	17 years of age.
Total.....	23	17	7	7	3	6	3	1	2
Beginning work before father's unemployment.....	12	11	3	6	2	1			1
Errand boy.....	1	1		1					
Telegraph messenger.....	1	1		1					
Factory worker.....	7	6	2	2	2	1			1
Machinist's apprentice.....	1	1		1					
Occupation not reported.....	2	2	1	1					
Beginning work during father's unemployment.....	10	5	4	1		5	3	1	1
Housemaid.....	1					1		1	
Messenger.....	2	2	2						
Seamstress alteration in department store.....	1					1	1		
Salesman.....	1	1		1					
Laundry operative.....	1					1	1		
Factory worker.....	2	1	1			1	1		
Clerical worker.....	1					1			1
Machinist's apprentice.....	1	1	1						
Not reported.....	1	1			1				
Printer.....	1	1			1				

<sup>1</sup> Not working at time of agent's visit.

TABLE 40.—*Racine and Springfield: Time of beginning work and grade in school of working children of unemployed men, by age and sex.*

Age, sex, and time of beginning work.	Working children.											
	Total.	Who left school at completing specified grade.							Who left school while enrolled in specified grade.			Not reported when left school.
		Total.	Fourth.	Seventh.	Eighth.	High school.		Grade not reported	Total.	Seventh.	Eighth.	
						First year.	Second year.					
Total.....	45	38	1	6	21	6	1	3	4	2	2	3
Beginning to work before father's unemployment.....	21	20	1	3	11	4	.....	1	1	1	.....	.....
Boys.....	17	17	1	2	9	4	.....	1	.....	.....	.....	.....
15 years.....	3	3	1 1	1 1	1 1	.....	.....	.....	.....	.....	.....	.....
16 years.....	7	7	.....	1	3	1 2	.....	1 1	.....	.....	.....	.....
17 years.....	7	7	.....	.....	2 5	2	.....	.....	.....	.....	.....	.....
Girls.....	4	3	.....	1	2	.....	.....	.....	1	1	.....	.....
16 years.....	1	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....
17 years.....	3	3	.....	1	2	.....	.....	.....	.....	.....	.....	.....
Beginning to work during father's unemployment.....	22	16	.....	2	9	2	1	2	3	1	2	3
Boys.....	8	6	.....	.....	5	1	.....	.....	1	1	.....	1
15 years.....	5	3	.....	.....	2	1	.....	.....	1	1	.....	1
16 years.....	3	3	.....	.....	3 3	.....	.....	.....	.....	.....	.....	.....
Girls.....	14	10	.....	2	4	1	1	2	2	.....	2	2
15 years.....	5	4	.....	2	2	.....	.....	.....	.....	.....	.....	1
16 years.....	5	3	.....	.....	1	1	.....	1	2	.....	1 2	.....
17 years.....	4	3	.....	.....	1	.....	1	1 1	.....	.....	.....	1
Notreported.....	2	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....
Boys (17 years)....	2	2	.....	1 1	1	.....	.....	.....	.....	.....	.....	.....

<sup>1</sup> One not working at time of agent's visit.<sup>2</sup> Three not working at time of agent's visit.<sup>3</sup> Two not working at time of agent's visit.<sup>4</sup> Remained in school half time.<sup>5</sup> Graduated from an academy



TABLE 41.—*Racine and Springfield: Length of time since leaving school of working children of unemployed men, by age and sex.*

Age and sex.	Working children.							
	Total.	Length of time since leaving school.						
		Less than 6 months.	6-11 months.	12-17 months.	18-23 months.	24-29 months.	30-35 months.	36 months and over.
Total.....	45	4	10	3	11	1	5	3
Boys.....	27	2	4	2	9	.....	4	2
15 years.....	8	<sup>1</sup> 2	<sup>2</sup> 3	.....	<sup>1</sup> 1	.....	.....	<sup>1</sup> 2
16 years.....	10	.....	1	2	<sup>2</sup> 5	.....	2	.....
17 years.....	9	.....	.....	.....	<sup>2</sup> 3	.....	<sup>1</sup> 2	<sup>1</sup> 2
Girls.....	18	2	6	1	2	1	1	1
15 years.....	5	2	1	1	.....	.....	.....	1
16 years.....	6	.....	<sup>1</sup> 3	.....	.....	.....	1	<sup>2</sup>
17 years.....	7	.....	2	.....	2	1	1	<sup>1</sup> 1

<sup>1</sup> One not working at time of agent's visit.<sup>2</sup> Two not working at time of agent's visit.<sup>2</sup> One remained in school half time.TABLE 42.—*Springfield: Employment status February 1, 1922, of children whose first employment certificates were issued subsequent to May 1, 1921, by age and sex.*

Age and sex.	Total children.	Children employed Feb. 1, 1922.	Children not employed Feb. 1, 1922.
Total.....	155	122	33
Boys.....	67	49	18
14 years.....	31	25	6
15 years.....	36	24	12
Girls.....	88	73	15
14 years.....	34	29	5
15 years.....	54	44	10

TABLE 43.—*Springfield: Length of time since original employment certificate was issued to children who received certificates subsequent to May 1, 1921, but who were not at work February 1, 1922; by amount of time worked.*

Length of time since original permit was issued.	Children who worked specified amount of time.						
	Total.	Less than 1 month.	1 month.	2 months.	3 months.	4 months.	5 months.
Total.....	<sup>1</sup> 33	4	5	5	9	5	2
Less than 1 month.....	<sup>1</sup> 1	.....	.....	.....	.....	.....	.....
1 month.....	2	1	1	.....	.....	.....	.....
2 months.....	3	1	1	1	.....	.....	.....
3 months.....	3	1	1	.....	1	.....	.....
4 months.....	12	1	.....	2	<sup>1</sup> 7	2	.....
5 months.....	3	.....	2	.....	.....	1	.....
6 months.....	2	.....	.....	1	.....	.....	.....
7 months.....	2	.....	.....	.....	1	.....	1
8 months.....	5	.....	.....	.....	1	1	2

<sup>1</sup> Includes 1 child for whom amount of time was not reported.

TABLE 44.—*Springfield: Number of jobs held and total amount of time child had worked prior to February 1, 1922; children with employment certificates unemployed February 1, 1922.*

Total amount of time child had worked.	Unemployed children who had had specified number of jobs.						
	Total.	1	2	3	4	8	10
Total.....	109	58	24	12	13	1	1
Less than 1 month.....	15	14	.....	1	.....	.....	.....
1 month.....	13	11	2	.....	.....	.....	.....
2 months.....	19	11	7	.....	.....	.....	1
3 months.....	18	9	5	3	1	.....	.....
4 months.....	10	2	5	2	1	.....	.....
5 months.....	6	.....	2	2	2	.....	.....
6 months.....	5	3	.....	1	1	.....	.....
7 months.....	3	1	.....	.....	2	.....	.....
8 months.....	6	1	1	.....	3	1	.....
9 months.....	4	1	1	.....	2	.....	.....
10 months.....	2	2	.....	.....	.....	.....	.....
11 months.....	1	.....	.....	1	.....	.....	.....
14 months.....	3	1	.....	1	1	.....	.....
15 months.....	1	.....	1	.....	.....	.....	.....
Not reported.....	3	2	.....	1	.....	.....	.....

TABLE 45.—*Springfield: Grade completed by children between 14 and 16 years of age to whom employment certificates had been issued but who were not at work February 1, 1922, by age and sex.*

Age and sex.	Children who had completed specified grade.								
	Total.	Fourth.	Fifth.	Sixth.	Seventh.	Eighth.	Ninth.	First year high school.	Grade not reported.
Total.....	109	4	4	23	27	34	9	4	4
Boys.....	76	3	3	18	22	22	4	1	3
14 years.....	7	.....	1	2	2	.....	1	.....	1
15 years.....	69	3	2	16	20	22	3	1	2
Girls.....	33	1	1	5	5	12	5	3	1
14 years.....	5	.....	.....	1	2	2	.....	.....	.....
15 years.....	28	1	1	4	3	10	5	3	1

TABLE 46.—*Springfield: Length of employment history of children between 14 and 16 years of age to whom employment certificates had been issued but who were not at work February 1, 1922, by amount of time worked in all positions.*

Length of employment history.	Unemployed children who had worked.												
	Total amount of time worked in all positions.												
	Total.	Less than 1 mo.	1 mo.	2 mos.	3 mos.	4 mos.	5 mos.	6 mos.	7 mos.	8 mos.	9 mos.	10 mos.	11 mos. and over.
Total.....	109	15	13	19	18	10	6	5	3	6	4	2	5
Less than 1 month.....	1												1
1 month.....	2	1	1										
2 months.....	3	1	1	1									
3 months.....	2		1		1								
4 months.....	12	1		2	7	2							
5 months.....	3		2			1							
6 months.....	1			1									
7 months.....	2			1			1						
8 months.....	5				1	1	1		2				
9 months.....	1				1								
14 months.....	3	1		2									
15 months.....	8	4		3									1
16 months.....	15	3	2	1	1			2		1		1	3
17 months.....	12	1	2	2	1	1	1	1			1	1	
18 months.....	6		1	1			1	1		1	1		
19 months.....	17	2	2	3	4	2	1	2					2
20 months.....	7	1			1		1		1	2	1		
21 months.....	4			1	1					1			1
22 months.....	4		1	1		1					1		
23 months.....	1									1			

<sup>1</sup> Worked 14 months.<sup>2</sup> Worked 15 months.<sup>3</sup> Worked 11 months.TABLE 47.—*Springfield: Period of residence in the city, of unemployed men who were given city work, by country of birth.*

Country of birth.	Unemployed men given city work.								
	Period of residence in city.								
	Total.	Less than 1 year.	1 to 4 years.	5 to 9 years.	10 to 14 years.	15 to 19 years.	20 years and over.	Life.	Not reported.
Total.....	663	7	164	180	101	64	92	52	3
Native.....	317	2	91	70	35	28	37	52	2
Foreign born.....	346	5	73	110	66	36	55		1
Italy.....	158	2	30	52	32	17	25		
Canada.....	43	1	6	11	8	4	12		1
Poland.....	22		7	5	8	1	1		
Greece.....	21	1	8	10	1				
Ireland.....	18			3	3	2	10		
Syria.....	13		3	5	3	1	1		
Russia.....	13	1		9	1		2		
Armenia.....	11		2	6	1	2			
Sweden.....	10		2	3	1	2	2		
England.....	9		2	2	1	2	2		
Austria.....	7		2	1	3	1			
Scotland.....	5		3		1	1			
West Indies.....	4		3		1				
Turkey.....	3		3						
All other <sup>1</sup> .....	9		2	3	2	2			

<sup>1</sup> Includes 1 man born in Czechoslovakia, 1 in Palestine, 1 in Portugal, 2 in Finland, 2 in Germany, and 2 in Lithuania.

TABLE 48.—*Springfield: Previous weekly wages of unemployed men, by length of unemployment before application for city work.*

Weekly wages before unemployment.	Unemployed men given city work.									
	Total.	Length of unemployment before applying for work.								
		Less than 1 month.	1 month.	2 months.	3 months.	4 months.	5 months.	6 to 11 months.	12 months and over.	Not reported.
Total.....	663	126	104	82	59	53	33	162	40	4
\$10, less than \$15....	14	3	1	4	2	3	1	.....	.....	.....
\$15, less than \$20....	66	16	12	13	3	6	2	10	3	1
\$20, less than \$25....	168	43	28	16	14	15	11	33	7	1
\$25, less than \$30....	161	18	27	23	15	19	10	44	5	.....
\$30, less than \$35....	90	12	7	7	9	4	2	42	5	2
\$35 and over.....	84	12	9	8	10	5	5	21	14	.....
Not reported.....	80	22	20	11	6	1	2	12	6	.....

# **APPENDIX B.—FORMS USED IN THE STUDY.**

## **FORM 1.**

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU.

Current— Last date—  
Cont. Assn.— Poor Office—

### **UNEMPLOYMENT CASE.**

Name: Unempl. began: Date first applic.:  
Address: Occupation:  
Age: Race: Birthplace: Citizen: Y N Yrs. U. S.—Speaks Eng. —  
Work Secured Through Employment Office.

Date.	Occupation.	Total time.	Wages.		Remarks.
			Weekly.	Total.	

## FORM 2.

[Page 1.]

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU.Number  
Date of visit

## UNEMPLOYMENT AND DEPENDENCY.

Father's last regular employment:

Wages:

Date unemployment began:

Cause:

Nationality: Father—

Mother—

Citizenship: Y N

Length of time father in U. S.:

In city:

Age: Father— Mother—

Literacy of father: reads

writes

Eng.

N. L.

Speaks English: Y N

Children:

Name.	Date of birth.	Age.	Grade.	Left school.		Occupation.	Industry.	Wages.	Date began work.
				Grade compl.	Date.				
1.									
2.									
3.									
4.									
5.									
6.									
7.									

Others living with the family:

Total in home:

No. rooms—

Used for sleeping Bath: Y N

Homeowned: Y N

Mortgaged: Y N

Length of time in house:

Mo. interest:

Rent: Present— During empl.

Character of dwelling and neighborhood:

Agent:

Informant: Agency—

Mo.—

Fa.—

**FORM 2—Continued.**

[Page 2.]

**RESOURCES OF FAMILY DURING UNEMPLOYMENT OF FATHER.**

Temporary work of father: Current empl. Of. case: Y N

Type of work:

Amount of time employed (proportion):

Earnings (daily or weekly rate):

Total earnings since "date unemployment began":

Employment of mother: Before unempl.:

Present time:

At home:

Away from home:

Type of work:

Time per day or week:

Average weekly earnings:

Total earnings during unemployment:

Care of children:

Employment of children:

Other sources of income:

1. Existing before unemployment of father:

2. Added during period of unemployment:

(Aid from relatives; sold house; rental of house; boarders, etc.)

Charitable aid:

Total weekly income of family at time of inquiry:

Approximate total income during period of unemployment:

## FORM 2—Continued.

[Page 3.]

## SPECIAL NOTES.

(Handicaps and retrenchment during unemployment period.)

## 1. Father's work status:

Regularly employed at trade (name trade)—

Unskilled worker, but usually steadily empl.—

Casual laborer, frequently unemployed—

Is unemployment due to physical disability: (Nature of dis.)

## 2. Health:

Serious illnesses during unempl. period: health of mother and children.

## 3. Children committed to institutions: (for permanent custody or temporary care).

## 4. Losses, etc.:

Losses due to unpaid installments on furniture, unpaid mortgage interest, insurance premiums, etc. Probable permanent loss of industrial standing through long period of unemployment.

## 5. Credit and debts:

During unemployment period; debts by items; extent to which credit at stores has tided family through.

## 6. Reduction in standard of living:

Housing, food, comforts, recreation, etc.



## FORM 3.

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU.

## RECORD OF FAMILY RELIEF.

Agency:

Name:

Address:

Rent:

Father: Occupation—

Date unempl. began—

Age—

Race—

Birthplace—

Citizen: Y N

Children in home: (Ages) Under 14—

14 and over—

Wk'g—

Unempl.—

Mother working: At home—

Away from home—

Others in family:

Total income at applic.: Date—

Income and sources—

Date first applic. to agency:

Date unempl. applic.—

Active case prior to present unempl.: 1916— 1917— 1918— 1919— 1920—

Dates and amounts of relief:

## FORM 4.

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU.

## DAY NURSERY CASE.

Cent. Assn. case: Y N

Sched. family case: Y N

Special visit case: Y N

Name:

Address:

Father: Previous occupation:

Unempl. began:

Temp. work:

Children in home: Ages—

In school—

Working—

Children cared for by day nursery: Ages—

Daily charge:

Periods of care:

Employment of mother:

## FORM 5.

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU.

Date—

## MEN APPROVED FOR CITY WORK—SPRINGFIELD.

Date of application—

Age of father—

Birthplace—

Years in Springfield—

When last employed—

Occupation—

Wages—

Wife employed—

Ages of children—

Ages of working children—

Social data—

## FORM 6.

## CHILD ENROLLED IN CONTINUATION SCHOOL.

Sex—

Date of birth—

Date:

Date original permit—

Date left school—

Grade completed—

Date began work—

Date leaving last empl.—

Activities while unemployed:

## FORM 7.

Date:

## CERTIFICATE CHILD—NOT EMPLOYED.

Sex—

Date of birth—

Date original cert.—

Date left school—

Grade completed—

Now in school?

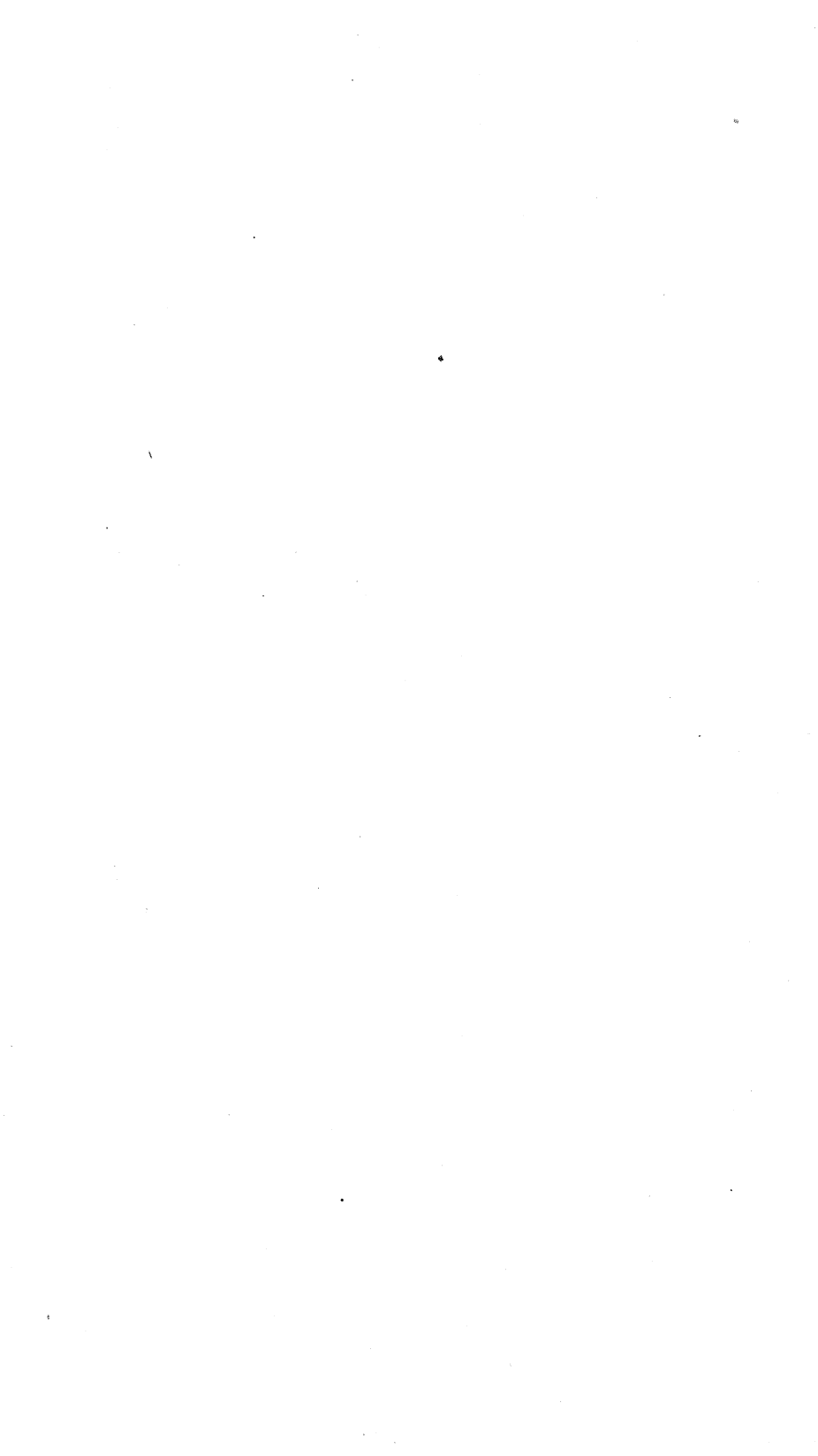
Grade—

Date began work—

Date leaving last empl.—

Jobs held, length of time in each:





JAN 8 1924

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

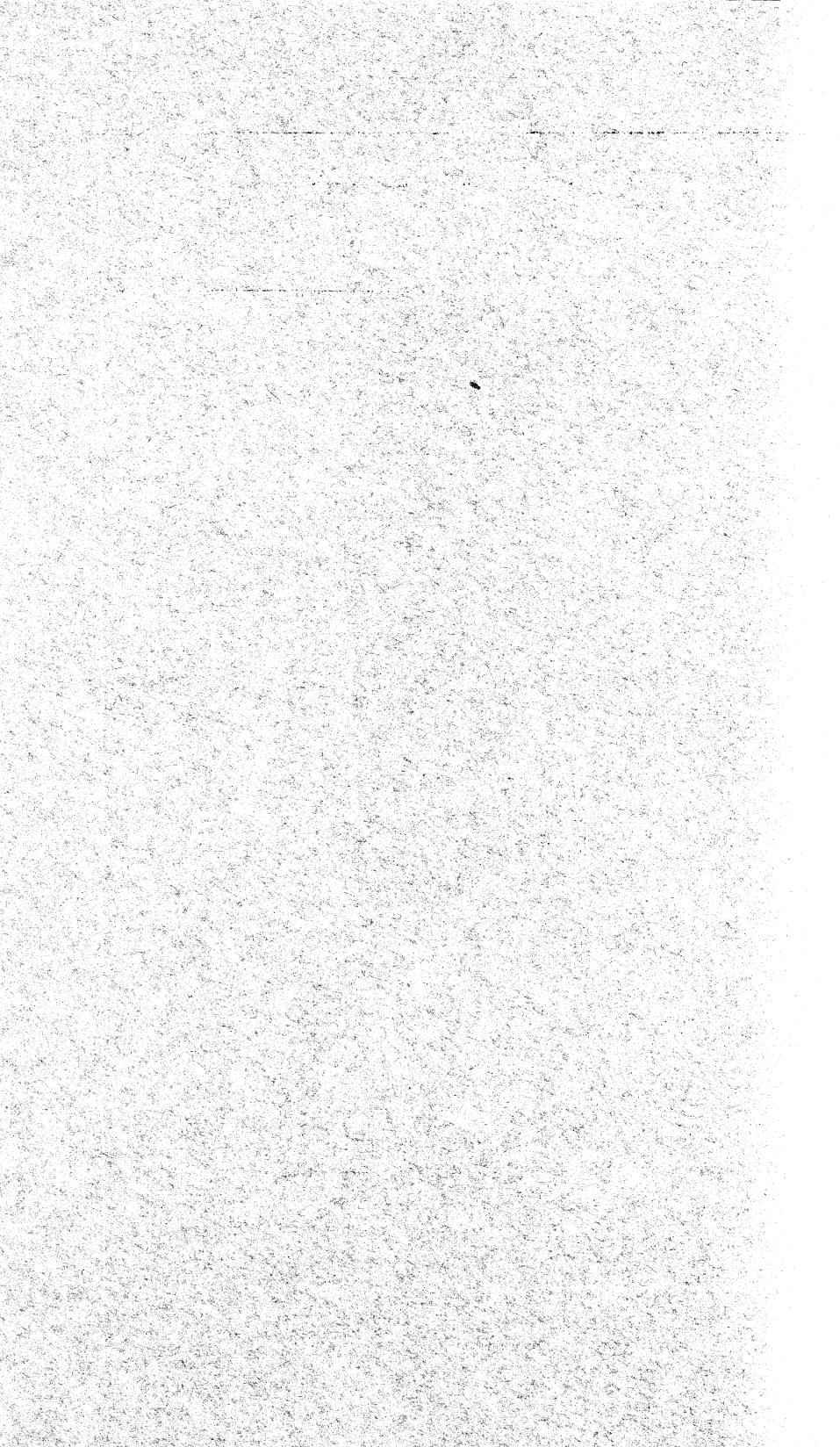
# MINORS IN AUTOMOBILE AND METAL-MANUFACTURING INDUSTRIES IN MICHIGAN



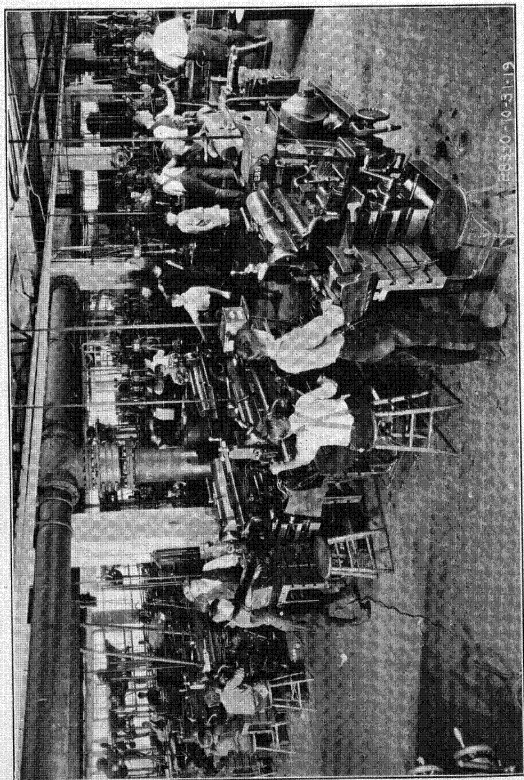
Bureau Publication No. 126



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923







APR 30 10-31-19

PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE I.—TRADE-SCHOOL SHOP. SHAPERS IN FOREGROUND.

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

MINORS IN AUTOMOBILE AND  
METAL-MANUFACTURING INDUSTRIES  
IN MICHIGAN

2

Bureau Publication No. 126



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

OWING TO LIMITED APPROPRIATIONS FOR PRINTING, IT IS  
NOT POSSIBLE TO DISTRIBUTE THIS BULLETIN IN LARGE  
QUANTITIES. ADDITIONAL COPIES MAY BE PROCURED  
FROM THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.  
AT  
25 CENTS PER COPY



## CONTENTS.

---

	Page.
Letter of transmittal .....	vii
Introduction .....	1-3
Purpose and scope of study .....	1
Method of study .....	2
Minor workers in the factories surveyed .....	4-40
Proportion of minor employees .....	4
Age and occupation .....	5
Sex .....	6
Nativity and father's nationality .....	8
Hours of labor .....	9-12
Hours worked .....	9
Legal limitations on hours .....	11
Earnings .....	12-17
Earnings and hours .....	13
Earnings and sex .....	13
Earnings and age .....	14
Earnings and length of work histories .....	14
Earnings and occupation .....	15
Method of payment .....	17
Promotion .....	17-20
Possible lines of promotion .....	17
Training for promotion .....	19
Chances for promotion .....	20
Industrial histories .....	20-26
Age at going to work .....	21
The first position .....	22-24
Industry .....	22
Duration .....	22
Number of positions held .....	24
Time in present occupation and industry .....	26
Increase in earnings .....	26
General education .....	26-32
Grade completed and occupation .....	28
Grade completed and earnings .....	28
Age at leaving school and retardation .....	29
Technical training .....	32-40
School courses in technical subjects .....	32-36
Courses pursued .....	32
Trade training and grade completed .....	33
Types of courses .....	33
Length of courses .....	35
Relation to earnings .....	35
Shop training and apprenticeship .....	36-40
Learning period .....	36
Apprenticeship .....	38

	Page.
Technical training for working minors in the selected cities.....	41-47
Detroit.....	41-46
Continuation schools.....	41-44
Boys' continuation school.....	41
Girls' continuation school.....	44
Night schools.....	44
Other cities.....	46
Industrial accidents to minors, safety conditions, and accident prevention....	48-56
Legal protective measures.....	48
State records of industrial accidents to minors.....	49
Safety conditions and accident prevention in the factories surveyed.....	52-56
Factory safety organization.....	52-56
Safeguarding by signs, warnings, and mechanical contrivances....	53
Safety inspection.....	54
Safety committees.....	54
Emergency and hospital care.....	54
Plant accident figures.....	55
State prevention work.....	56
Summary and conclusions.....	57
Appendixes:	
Appendix I. Descriptive analysis of common occupations of minors.....	63-101
The engineering department.....	64-67
Tool designer and tool detailer.....	65
Assistant chemist.....	65
Scleroscope operator.....	66
Blue-print machine operator.....	67
The pattern shop.....	67-68
Pattern maker's apprentice.....	67
The foundry.....	68-70
Molder's apprentice and machine molder.....	68
Foundry laborer.....	70
The core room.....	72-71
Core maker.....	70
The casting-cleaning department.....	71-72
Rattling-room laborer.....	71
The forge shop.....	72-74
Heater.....	72
Blacksmith's helper.....	72
Acetylene welder and electric-arc welder.....	73
The heat-treat department.....	74-75
Acetylene annealer.....	74
Casehardener's helper.....	75
The machine shop.....	75-85
Drill-press operator.....	76
Surface-grinder operator.....	77
External grinder.....	78
Internal grinder.....	78
Reamer-grinder operator.....	79
Milling-machine operator.....	80
Screw-machine operator.....	80
Boring-machine operator.....	81
Punch-press operator.....	82
Tapping- and threading-machine operators.....	83
Die setter.....	83

Appendixes—Continued.

Appendix I. Descriptive analysis of common occupations of minors—Con.

The machine shop—Continued.	Page.
Set-up man for screw machine.....	84
Set-up man and foreman.....	84
Machine-shop trucker.....	85
The tool room.....	85-86
Bench work, die-repair man.....	85
The sheet-metal department.....	86-89
Sheet-metal marker.....	86
Rotary-shear operator.....	86
Hammerman's helper.....	87
Sheet-metal flanger.....	87
Door paneler.....	88
Body finisher.....	88
Sheet-metal bench jobber.....	89
The paint shop.....	89
The trimming and the top-making department.....	89
The inspection department.....	90
Inspector.....	90
Body inspector.....	90
The assembly department.....	91-93
Brake-band assembler.....	91
Final assembler.....	92
Gasoline-engine erector.....	92
Outfit assembler.....	93
The testing, adjustment, and final-repair department.....	94-98
Rear-axle final adjuster.....	94
Brake and cable adjuster.....	95
Tester.....	95
Motor-block tester.....	96
Final-test driver.....	97
Rear-axle repair man.....	97
Automobile-motor repair man.....	98
Final general car repairer.....	98
Other departments.....	99-101
Stock-room man.....	99
Stock chaser.....	99
Electric trucker.....	100
Messenger.....	100
Oiler.....	101

Appendix II. Forms used in the survey..... 103

Appendix III. General tables..... 105-122

Table I.—Proportion of minor employees, by occupation and industry; employees in metal-manufacturing industries.....	105
Table II.—Occupation, by age; minors in metal-manufacturing industries.....	106
Table III.—Nativity and country of birth of father, by nativity of child; minors in metal-manufacturing industries.....	107
Table IV.—Number of hours worked per week, by age and sex; minors in metal-manufacturing industries.....	108
Table V.—Number of hours worked per week, by method of payment; minors in metal-manufacturing industries.....	110
Table VI.—Earnings per week, by sex; minors in metal-manufacturing industries.....	110

## Appendixes—Continued.

## Appendix III. General tables—Continued.

	Page.
Table VII.—Earnings per week, by number of hours per week; minors in metal-manufacturing industries.....	111
Table VIII.—Occupation and industry of father; minors in metal-manufacturing industries.....	112
Table IX.—Location of school last attended, by grade completed; minors in metal-manufacturing industries.....	112
Table X.—Increase in weekly earnings from first to present position, by length of work history, and by sex; minors in metal-manufacturing industries.....	113
Table XI.—Grade completed, by sex, color, and nativity of child and nativity of father; minors in metal-manufacturing industries.....	115
Table XII.—Type of trade training courses taken, by occupation; minors in metal-manufacturing industries.....	117
Table XIII.—Type of trade training courses taken after leaving day school, by type taken in day school, and by sex; minors in metal-manufacturing industries.....	118
Table XIV.—Kind of school attended; minors in metal-manufacturing industries who took trade training courses after leaving school.....	120
Table XV.—Length of trade training course, by type of course; minors in metal-manufacturing industries who took trade training courses after leaving school.....	120
Table XVI.—Enrollment in specified class in night school, by occupation and industry and by sex; selected group of pupils in Detroit, Mich., night schools.....	121
Appendix IV. A brief bibliography.....	123

## ILLUSTRATIONS.

	Facing page.
Plate I. Trade-school shop. Shapers in foreground.....	I
II. Foundry. Pouring with hand ladles.....	8
III. Foundry. Pouring molten iron into molds. Ladle tilted by hand-wheel.....	9
IV. Foundry. Molding machines.....	18
V. Forge shop. Blacksmith in foreground; forges and small steam hammer in background.....	19
VI. Heat treatment. Heating furnace.....	40
VII. Machine shop. Planer in foreground at right, shapers next; bench work at left.....	41
VIII. Machine shop. At left, rough hand grinding; at right, milling machines.....	56
IX. Sensitive speed-drill press.....	57
X. Surface grinder. Grinding wheel hidden from view by metal guard..	66
XI. External grinding.....	67
XII. Milling machine.....	72
XIII. Machine shop. Cutter on milling machine, illustrating danger of using finger to clean out shavings.....	73
XIV. Machine shop. Automatic-screw machine.....	80
XV. Punch-press department, heavy. Punching out rear-axle housings..	81
XVI. Light punch press.....	88
XVII. Trim shop. Putting upholstery on bodies.....	89
XVIII. Trim shop, cushion-making department. Bench work.....	92
XIX. Piston and connecting-rod assembly. Bench work.....	93

## LETTER OF TRANSMITTAL.

---

U. S. DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, June 25, 1923.*

SIR: There is transmitted herewith a report on Minors in Automobile and Metal-Manufacturing Industries in Michigan.

This report was prepared in the industrial division of the Children's Bureau. With the exception of securing the records of industrial accidents, which was done under the direction of Walter M. Hinckle, the field work in connection with this study was supervised by Helen M. Dart, who, together with Ella Arvilla Merritt, has written the report. The occupational descriptions were prepared by E. J. Allett, head of the industrial department of the high school in Lansing, Mich.

In the course of the investigation and the writing of the report the Children's Bureau had the cooperation of State and local school officials and officials of the State industrial accident board and the State department of labor, and of automobile and metal manufacturers, all of whom were most generous in granting access to their records and in furnishing information.

Respectfully submitted.

GRACE ABBOTT, *Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*



# MINORS IN AUTOMOBILE AND METAL-MANUFACTURING INDUSTRIES IN MICHIGAN.

## INTRODUCTION.

### PURPOSE AND SCOPE OF STUDY.

This study was undertaken primarily as an evaluation of the status of minor wage earners in certain important manufacturing industries which, because they demand the services of a relatively high proportion of skilled and semiskilled employees, might be thought to offer somewhat exceptional opportunities to their young workers. The purpose of the inquiry was to determine: (1) The standards of the selected industries in regard to the qualifications of the minors entering them; (2) the burden laid by the industry upon its young employees—i. e., the physical demands and hazards of the work performed, and the hours of labor required; and (3) the returns given by the industry to its minor workers in respect to wages, industrial training, and opportunities for advancement. In addition, a brief inquiry was made with respect to the opportunities for vocational training in the city where these industries were located, with especial reference to those offered to employed minors.

In 1919 the manufacture of automobiles, including bodies and parts, ranked seventh in the United States in regard to the average number of wage earners employed and second in regard to value of product. The average number of wage earners employed increased 170 per cent between 1914 and 1919. Although the manufacture of foundry and machine-shop products did not show so rapid a growth, in 1919 it ranked second in the United States in respect to average number of wage earners employed, fourth in respect to value of product.<sup>1</sup>

Since only a limited field could be covered, the study was confined to representative metal-manufacturing<sup>2</sup> establishments in Michigan—a State which is an important center for the manufacture of foundry and machine-shop products, and which leads in the production of automobiles.<sup>3</sup> In 1914, Michigan factories employed slightly over one-half <sup>4</sup> of all the wage earners in the automobile factories of the

<sup>1</sup> U. S. Bureau of the Census, abstract of the Census of Manufactures, 1919, pp. 19 and 230.

<sup>2</sup> Including car shops and the manufacture of automobiles and automobile parts.

<sup>3</sup> Statistics of production of automobiles include the figures for automobile parts.

<sup>4</sup> U. S. Bureau of the Census, Census of Manufactures, 1914, Vol. II, p. 733.

country, in 1919,<sup>5</sup> about one-half. Moreover, in 1914 one-fourth<sup>6</sup> and in 1919<sup>7</sup> three-eighths of all the wage earners in the State were employed in the manufacture of automobiles and of automobile bodies and parts.

Twenty establishments were included in the survey;<sup>8</sup> 11 of these plants were located in Detroit, 5 in Lansing, 2 in Bay City, 1 in Flint, and 1 in Saginaw. In the 18 plants for which it was possible to secure the number of adult and minor workers, an aggregate of 26,192 wage earners, of whom 11 per cent were under 21 years of age, were employed in the factory proper. The automobile factories included three large plants producing a finished car, two automobile-body factories, and three factories the main output of which was automobile parts. To secure information with regard to the manufacture of foundry and machine-shop products, factories were visited which produced iron and steel castings, gasoline engines, boilers, cranes, ventilating apparatus, bolts, drills, and similar products. The other plants surveyed included a car-repair shop, as well as factories producing forgings, brass and copper sheet metal, wire and tubing, and small brass parts.

The survey was made in the spring of 1920, before the beginning of the period of business depression. All branches of metal manufacture had benefitted to a greater or less degree from the impetus given by the war to the manufacture of munitions, ships, airplanes, and other military supplies. Having returned to a peace-time basis, the factories were doing their best to meet the accumulated demand for automobiles and other metal products for domestic use, the manufacture of which had been curtailed during the war period. Wages were high and work plentiful.

### METHOD OF STUDY.

Information was obtained chiefly from the following sources: (1) Pay-roll and employment-office records; (2) interviews with factory officials; (3) observation of factory processes; (4) questionnaires obtained from minor employees; (5) interviews with superintendents and principals of schools giving technical training, and the records of such schools; and (6) State accident records.

Records of age, sex, and occupation of all employees were secured from the employment offices, and these were supplemented by pay-roll data on hours and earnings for all workers under 21. From employment managers was secured special information about each occupation at which minors were found working; e. g., education

<sup>5</sup> Fourteenth Census of the United States, 1920, Vol. X, Manufactures, p. 869.

<sup>6</sup> U. S. Bureau of the Census, Census of Manufactures, 1914, Vol. I, p. 668.

<sup>7</sup> Fourteenth Census of the United States, 1920, Vol. IX, Manufactures, p. 694.

<sup>8</sup> In addition, general data were obtained from one other establishment, an automobile factory.



and experience necessary for employment, method and period of training in the shop, the line of promotion, and the hazards of the work.<sup>9</sup> Typical occupations in which minors were commonly employed were observed and analyzed by a mechanical engineer familiar with the construction and operation of machines and with the technical work of metal manufacturing.

By means of a printed questionnaire<sup>10</sup> each minor was asked for data in regard to his nativity, education and industrial training, and industrial history. These questionnaires were filled out and returned by 913 minors, about one-third of the whole number found employed. Since the more intelligent of the workers were the more likely to be interested and able to fill out the somewhat detailed form, it is not surprising that a slightly larger proportion of this group than of all the minor workers were employed at the more skilled and better-paid types of work. Moreover, returns from foreign-born and negro minors were incomplete, because such workers, through lack of education, often had difficulty in writing out the answers to the questions. While these differences must be borne in mind in interpreting results, they do not seem sufficient to invalidate the very general conclusions indicated by the data secured.

The vocational and technical schools in the cities where the survey was carried on were visited to ascertain what courses were offered on subjects related to work in the metal trades, and what types of pupils were enrolled in such courses. Special emphasis was placed on public-school facilities.

In view of the danger incident to many of the occupations in metal manufacturing, records of the State industrial accident board were studied and a survey was made of safety conditions and accident prevention in the factories included in the inquiry.

---

<sup>9</sup> See Appendix II, Form 1.

<sup>10</sup> See Appendix II, Form 2.

## MINOR WORKERS IN THE FACTORIES SURVEYED.

### PROPORTION OF MINOR EMPLOYEES.

The proportion of minors to the total number of employees in the establishments visited varied but slightly from one city to another. In Detroit 11 per cent of all the workers were under 21 years of age, in Lansing, 12 per cent; and in the three other cities combined, 9 per cent.<sup>11</sup>

Although the percentage of minor employees in the cities studied was fairly constant, considerable variation, due to differences in policy or in the demands of the work, was found in different types of establishments and in individual plants. In one automobile factory, which made it a policy to engage few workers under 18 and to require proof of age for all those under 21, only 9 per cent of the employees were minors; in another, which had a thoroughly worked-out apprenticeship system, 12 per cent were minors. The factories producing automobile bodies and automobile parts such as frames, wheels, bearings, and axles—all of which required the use of heavy machinery—showed 9 per cent of minor employees on the pay roll.

Factories manufacturing foundry and machine-shop products showed an average of 12 per cent, but wide variations existed between the different establishments in the group. In one foundry, for instance, 3 per cent of the workers were minors; in another, 8 per cent; in a factory producing gas engines, 19 per cent; and in one manufacturing drills, 24 per cent. Among the other plants visited, one which produced small brass castings and parts showed 19 per cent of the employees to be minors, while in the car shops only 2 per cent were minors—the lowest per cent in any industry.<sup>12</sup>

As would be expected, minors were found in comparatively large proportions in semiskilled or relatively unskilled occupations.<sup>13</sup> They constituted 32 per cent of the apprentices, 27 per cent of the stock and tool-crib workers, 22 per cent of the laborers and helpers in the foundry and core room, 18 per cent of the truckers and drivers, 18 per cent of the trimmers, 17 per cent of the core makers, and 15 per cent of the inspectors. The lowest proportion, 5 per cent, was found among the skilled workers, such as machinists, sheet-metal workers, molders, pattern makers, and toolmakers.

<sup>11</sup> The higher proportion of minors in Lansing factories was probably due to the fact that the schools supplement their industrial training by part-time factory work (see p. 46) and to the fact that two of the large factories there employed boys as apprentices.

<sup>12</sup> See General Table I for figures for the various industry groups.

<sup>13</sup> See General Table I, p. 105.

## AGE AND OCCUPATION.

Among the employees under 21 years of age the proportion of very young workers was low. As is shown by Table 1, less than 1 per cent of the total number of minors employed were under 16 years of age, while about two-thirds were between 19 and 21. Fifteen of the 19 employers reporting the age at which minors entered their employ said that for most of the occupations in their plants no minors under 17 were employed and most of them reported that for many specific occupations they did not hire minors under 18, either because younger workers had not had time to acquire the experience and skill necessary, or because they did not have sufficiently mature judgment, or because they lacked the requisite physical development. For heavy work such as that of molders, blacksmiths, millwrights, welders' helpers, engine assemblers, stock handlers, and foundry laborers, the general tendency was to employ older workers because of their greater strength and endurance. For a few other occupations, particularly those requiring the use of machinery, some employers stated that workers under 17 or even under 18 had not developed sufficient muscular coordination.

TABLE 1.—*Age, by sex; minors in metal-manufacturing industries.*

Age.	Minors in metal-manufacturing industries.					
	Total.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	2,840	100.0	2,536	100.0	304	100.0
14 years, under 15.....	5	.2	5	.2	.....	.....
15 years, under 16.....	20	.7	19	.7	1	.3
16 years, under 17.....	114	4.0	108	4.3	6	2.0
17 years, under 18.....	198	7.0	171	6.7	27	8.9
18 years, under 19.....	663	23.3	562	22.2	101	33.2
19 years, under 20.....	903	31.8	809	31.9	94	30.9
20 years, under 21.....	935	32.9	860	33.9	75	24.7
Not reported.....	2	.1	2	.1	.....	.....

Nevertheless, children under 18 years of age were found <sup>14</sup> in all kinds of work in which minors were employed at all. The proportion of apprentices among all employed minors varied from 19 per cent of the 16-year-old workers to 5 per cent of those 20 years of age. A similar tendency, though not so marked, was evident for stock and tool-crib workers. On the other hand, the proportion of machine operators varied from only 13 per cent of the 16-year-old group to 25 per cent of those 20 years of age.

While the nature of the work in the industries studied tended to keep at a low figure the number of employed children under 16 and

<sup>14</sup> See General Table II, p. 106.

even under 18 years of age, the legal provisions in Michigan relating to the employment of children also contributed to this result.

The State law fixed a minimum age of 15 years for full-time employment in factories during the school term and placed such additional restrictions<sup>15</sup> upon children 15 years of age as, if strictly enforced, would keep all but a very small proportion from leaving school for work before they were 16.<sup>16</sup> Even at 16 years of age children were still subject to the "dangerous occupations" law,<sup>17</sup> which forbade the employment of boys under 18 and girls under 21 in "cleaning machinery in motion" and in "any hazardous employment," and gave to the State department of labor the authority to determine what occupations should be considered hazardous.

The Federal child labor tax law,<sup>18</sup> by imposing a tax of 10 per cent upon the yearly profits of any factory employing children under 14, placed a practically prohibitive penalty upon employment of children under that age, and the provisions of the workman's compensation law, more fully discussed in the section on accidents,<sup>19</sup> had indirectly a decided tendency toward forcing a strict compliance with the minimum age provision of the State child labor law.

### SEX.

Comparatively few women were employed in the factories visited. In the establishments for which information regarding the sex of adult workers could be secured from the pay rolls, as shown in Table 2, only 521, or about 3 per cent of the 15,807 employees, were females.<sup>20</sup> Of all those under 21 employed in these establishments, however, 9 per cent were girls, and in the entire group of 521 women workers 141, or 27 per cent, were under 21 years of age. Evidently, therefore, the proportion of females among workers 21 years of age and over was very small. Table 1 indicates that the decrease with

<sup>15</sup> An employment certificate was necessary for work for each new employer, and was issued only upon satisfaction of the following requirements: (1) Promise of employment; (2) proof of age; (3) completion of sixth grade; (4) ability to read intelligently and to write simple English sentences; (5) statement by issuing officer that in his opinion child was of normal development, in sound health, and physically able to perform intended work, such physical fitness, in doubtful cases, to be determined by a medical officer of the board or department of health; (6) services necessary to support of his parents or himself. (Howell's Annotated Statutes, sec. 4018 as amended by acts of 1917, No. 280.) The last clause in particular made it possible to reduce considerably the number of children receiving permits.

<sup>16</sup> Children 14 years of age were permitted to work in factories during school vacation and outside school hours upon satisfying all the requirements for a full-time certificate except those relating to education and necessity of services.

<sup>17</sup> More fully discussed in connection with industrial accidents, p. 48.

<sup>18</sup> 40 Stat. L. 1138 (Revenue Act of 1918, approved Feb. 24, 1919, Title XII). This law was declared unconstitutional by the U. S. Supreme Court on May 15, 1922.

<sup>19</sup> See p. 48.

<sup>20</sup> In the iron and steel manufacturing industries the proportion of women wage earners has always been very small. In 1914 they constituted only 2 per cent of the workers 16 years of age in automobile factories and only 3 per cent in the foundries and machine shops in Michigan. During the war there was an increase in the number of women at work in these and allied industries. In 1919 in Michigan the per cent of women among wage earners 16 years of age was 4 per cent in automobile factories, 5 per cent in the manufacture of automobile bodies and parts, and 6 per cent in the manufacture of foundry and machine-shop products. Fourteenth Census of the United States, 1920, Vol. IX, Manufactures, p. 673.

age in the proportion of female workers began even before 21 years. A larger percentage of girls (33 per cent) was found in the age group 18 years of age than in any other, the number in the two succeeding years decreasing to 31 and 25 per cent, respectively. The number of boys, on the other hand, increased steadily from 18 to 21 years of age.

TABLE 2.—*Sex, by industry; adult and minor employees in metal-manufacturing industries.*

Industry.	Employees in metal-manufacturing industries.											
	Total.				Adult.				Minors.			
	Total. Male.		Female.		Total. Male.		Female.		Total. Male.		Female.	
			Num-ber.	Per cent.			Num-ber.	Per cent.			Num-ber.	Per cent.
	Total.	Male.	Num-ber.	Per cent.	Total.	Male.	Num-ber.	Per cent.	Total.	Male.	Num-ber.	Per cent.
Total <sup>1</sup> .....	15,807	15,286	521	3.3	14,288	13,908	380	2.7	1,519	1,378	141	9.3
Automobiles.....	9,020	8,523	497	5.5	8,104	7,742	362	4.5	916	781	135	14.7
Automobile bodies and parts.....	3,829	3,828	1	( <sup>2</sup> )	3,481	3,481	.....	.....	348	347	1	0.3
Foundry and machine shop.....	2,654	2,649	5	0.2	2,420	2,420	.....	.....	234	229	5	2.1
Other.....	304	286	18	5.9	283	265	18	6.4	21	21	.....	.....

<sup>1</sup> In factories employing 10,385 persons, sex for adult workers could not be secured from office records.

<sup>2</sup> Less than one-tenth of 1 per cent.

Girls were employed in a much more limited group of occupations than boys, as may be seen by reference to Table 7,<sup>21</sup> which shows the occupations in which minors of either sex were engaged. Foundry and most machine-shop work was generally considered by employers too heavy and dirty for women, and women themselves, possibly for the same reason, did not appear to seek it. The occupations in which girls were most commonly employed were inspection, trimming, assembling of small parts, sewing-machine operating, stock and tool-crib work, core making, and thread-machine operating—in the order named.<sup>22</sup> Some of these occupations—particularly sewing-machine operating and trimming, in which 23 per cent of the girls and less than 3 per cent of the boys were employed—are not, strictly speaking, metal-manufacturing occupations at all, but constitute such an integral part of automobile manufacturing that they should not be omitted in a study including that industry. This fact accounts in large part for the relatively high proportion of girls in the automobile factories, as shown in Table 2.

Eight of the twenty employers interviewed stated that it was contrary to their policy to employ women in factory work because the work was heavy and women lacked the necessary technical qualifications. Two firms that had taken on women during the war period had replaced them with men at the end of the war. This policy may have

<sup>21</sup> P. 15.

<sup>22</sup> For description of the work of core makers, thread-machine operators, and inspectors see pp. 70, 83, and 90, respectively.

been due partly to the reluctance of employers, when it was possible to secure men and boys, to face the new problems of factory management and equipment which the employment of women would involve. This reluctance may have been increased by the restrictions placed by law upon the employment of women, limiting their hours of work, requiring special safeguards and sanitary equipment in factories where they were employed, and excluding them from certain dangerous or harmful occupations.<sup>23</sup>

#### NATIVITY AND FATHER'S NATIONALITY.

According to Table 3, about half of all the minors reporting nationality were either themselves foreign born or of foreign parentage. Of this entire group,<sup>24</sup> more workers (20 per cent of the whole number) named Canada as the father's birthplace than any other country, and almost as many (15 per cent) reported fathers born in the United Kingdom. Nearly all the rest reported fathers belonging to non-English speaking European nationalities. Among the minors who were themselves foreign born (about two-fifths of the group who were foreign born or had foreign-born fathers), 38 per cent had fathers born in the United Kingdom or in Canada, 13 per cent in Austria-Hungary, 8 per cent in Poland, and 6 per cent in Germany.

The percentage of girls, according to Table 3, was lowest among native children of native fathers—9 per cent; it rose to 16 per cent for the foreign-born children, and was highest—20 per cent—among native children of foreign-born fathers. But nativity appeared to have little relation to the age or the occupation of the minors at work.

TABLE 3.—*Nativity of father and color and nativity of child, by sex of child; minors in metal-manufacturing industries.*<sup>1</sup>

Nativity of father and color and nativity of child.	Minors in metal-manufacturing industries. <sup>1</sup>				
	Total.	Boys.		Girls.	
		Number.	Per cent.	Number.	Per cent.
Total.....	2 589	510	86.6	79	13.4
White.....	568	489	86.1	79	13.9
Native.....	448	388	86.6	60	13.4
Father native.....	270	245	90.7	25	9.3
Father foreign born.....	172	138	80.2	34	19.8
Nativity of father not reported.....	6	5	.....	1	.....
Foreign born.....	120	101	84.2	19	15.8
Negro.....	21	21	.....	.....	.....

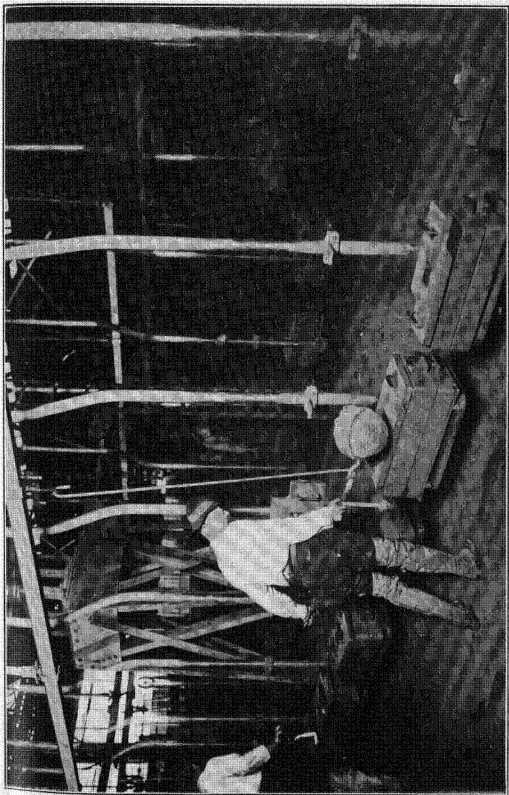
<sup>1</sup> Questionnaire group.

<sup>2</sup> Information as to color and nativity not secured for 324 minors.

Although only 6 of the employers interviewed stated that they did not employ negro labor, only 21 minors—4 per cent of the whole number for whom information as to race was obtained—were negroes. All were boys over 18 years of age, and 14 were laborers or helpers.

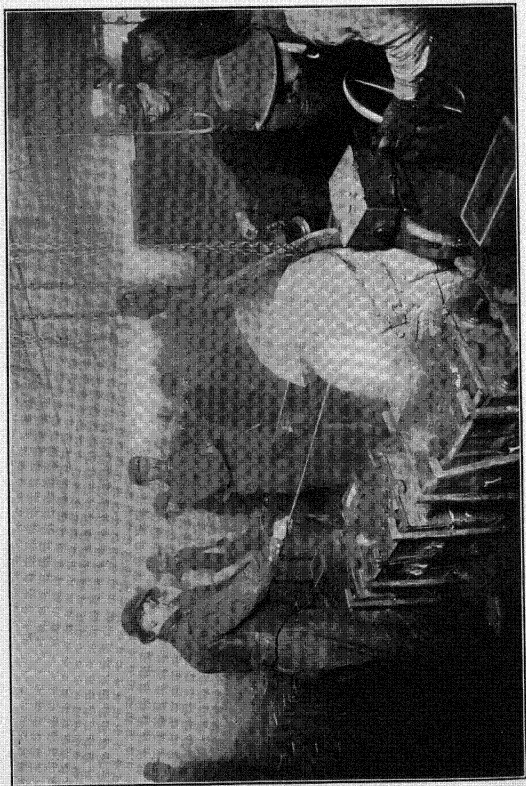
<sup>23</sup> Michigan, acts of 1909, No. 285, secs. 9 (as amended by acts of 1919, No. 341), 11 (as amended by acts of 1915, No. 255), 14 (as amended by acts of 1913, No. 160), 17 (as amended by acts of 1915, No. 3), and 21.

<sup>24</sup> See General Table III.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE II.—FOUNDRY. POURING WITH HAND LADLES.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE III.—FOUNDRY. POURING MOLTEN IRON INTO MOLDS. LADLE TILTED BY HANDWHEEL.



## HOURS OF LABOR.

## Hours worked.

Thirteen of the 18 employers from whom information concerning hours of labor was secured reported 9 hours as the regular working day in most of their production departments. In 8 of these 13 factories the regular working week was 50 hours; in 2, 49½ hours; in 1, 50½ hours; and in 2, 54 hours. Four establishments had a 48-hour week, 1 with an 8-hour day, 1 with an 8½, and 2 with an 8¾-hour day. A working day of 10 hours with a week of 54 hours was reported by 1 factory.

Over three-fifths (62 per cent) of all the minors in these 18 establishments were working in factories which had a 9-hour day and a 49½ to 50½ hour week schedule; and 95 per cent were employed in factories where the working week was between 48 and 51 hours. Nevertheless the pay-roll figures for the hours actually worked by the minors employed show that only a small proportion of them had worked between 48 and 51 hours during the week for which data were secured.<sup>25</sup> Eliminating the employed minors whose names did not appear on the pay rolls from which information as to hours was secured,<sup>26</sup> as is done in Table 4, it is found that about three-fifths of those whose hours were reported had worked fewer hours than 48, and that more than one-fifth had worked less than 36 hours. On the other hand, 16 per cent had worked 54 hours or more; and 157, or 7 per cent, had had a working week of 60 hours or longer.

TABLE 4.—*Number of hours worked per week, by sex; minors on pay roll in metal-manufacturing industries.*

Number of hours worked per week.	Minors on pay roll in metal-manufacturing industries.					
	Total.		Boys.		Girls.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
Total.....	2,212	100.0	1,957	100.0	255	100.0
Less than 36 hours.....	478	21.6	423	21.6	55	21.6
36 hours and over.....	1,734	78.4	1,534	78.4	200	78.4
42 hours and over.....	1,449	65.5	1,290	85.9	159	62.4
48 hours and over.....	858	38.8	785	40.1	73	28.6
54 hours and over.....	351	15.9	332	17.0	19	7.5
60 hours and over.....	157	7.1	155	7.9	2	0.8

<sup>a</sup> Excludes 619 minors (572 boys and 47 girls) whose names did not appear on pay roll from which information as to hours was secured and 9 minors (7 boys and 2 girls) for whom number of hours per week was not reported.

<sup>25</sup> See General Table IV. All the tables relating to hours of labor give the number of hours actually worked by minors as shown by the pay rolls. To secure a common basis for comparison, all pay rolls which were made upon a biweekly or semimonthly basis were reduced to a weekly basis. The figures based on the longer periods were less liable to be affected by chance variations than those taken from pay rolls made up weekly. (See p. 12, footnote 39).

<sup>26</sup> It was necessary, for convenience in working, that the information as to hours be taken from the pay roll previous to the current one; or, in case this did not show normal conditions, the most recent one representing a period when conditions were normal. Names of children employed, on the other hand, to be used in obtaining questionnaires, were taken from the current employment-office records. Thus the names of workers hired subsequently to the date of the selected pay roll would appear on the employment-office records, but not on the pay roll used.

The scope of the inquiry did not permit securing positive information in explanation of the short working week which was shown for so large a proportion of the minor employees. It is true that the railway switchmen's strike, which occurred during the survey, necessitated for a time a complete or partial shutdown of nearly all factories, but the pay-roll periods selected were not affected by this disturbance. At the time of the study employers were trying to increase rather than to curtail production. In some cases the short hours worked were doubtless due to sickness. Accidents or other causes necessitating shutdowns in certain departments may account for a small proportion. Also, the fact that wages were high and work easy to secure may have induced a certain amount of absenteeism. But it is probable that a high percentage of the short-hour weeks was due to shifting from one job to another. This is indicated by the fact that the number of minors employed whose names were not found on the pay roll previous to the current one amounted to 22 per cent of the whole.<sup>27</sup> Likewise, a large proportion of the questionnaires sent to minors whose names appeared on the employment-office records were returned blank because during the short period while the records were being copied and the questionnaires prepared for distribution these boys and girls had left their jobs.

Among the minors whose hours were reported, exactly the same proportion of boys as of girls, 78 per cent, worked 36 hours or more; but Table 4 shows a somewhat larger percentage of boys than of girls in each of the groups where the working hours were 42 or over per week. Eight per cent of the boys and only 2 girls—less than 1 per cent—had worked 60 hours or longer. No significant variation is seen in the number of hours worked by minors of different ages.<sup>28</sup> Somewhat greater differences appear, however, when the occupations in which minors were engaged are considered. In general the hours of assemblers averaged 41.2, an average somewhat shorter than that for workers in any other occupation, while the hours of laborers and helpers averaged longest, 47.3.<sup>29</sup> Among those working 60 hours or more there was a larger proportion of laborers and helpers than of any other group, with stock and tool-room workers, inspectors, and machine operators, following in the order named, and assemblers having the smallest proportion. Another indication of the types of work in which the longest hours prevailed is seen in the fact that the occupation groups showing the largest percentages of minors who had worked on the average over 54 hours per week during the pay-roll period were stock and tool-room workers, laborers and helpers,

<sup>27</sup> See p. 9, footnote 26, and Table 4, footnote a.

<sup>28</sup> See General Table IV.

<sup>29</sup> Figures in this sentence are based on the questionnaire group.

and inspectors (in that order), while the occupation showing the smallest percentage was again that of assembler.

Pieceworkers as a rule worked longer hours than those paid on a time-rate basis.<sup>30</sup> Among the minors from whom questionnaires were received 26 per cent of those paid piece rates and only 14 per cent of those paid time rates worked more than 54 hours, whereas but 12 per cent of the pieceworkers and 21 per cent of the time workers were in the group working what might be called "normal" hours; i. e., 48 to 51 hours per week.

As already noted,<sup>31</sup> the names of 22 per cent of the minors at work in the factories included in the survey were not found on the pay rolls referred to, and therefore no hours were secured for them. The proportion of these cases was higher for minors under 17 than for those in any other age group, and was somewhat higher among boys than among girls.<sup>32</sup> When occupations are considered, it was lowest for assemblers and highest for laborers and helpers. This indicates, probably, greater turnover among the boys and among the younger and less skilled workers.

Few statistics are available which might be used to compare the hours worked by minors in the factories included in the survey with hours worked either by minors or by all employees in similar plants throughout the country. A survey made by the United States Bureau of Labor Statistics in 1919 showed the average hours actually worked per week in the automobile industry as 49.2 for all male and 46.8 for all female employees, somewhat longer than the average hours worked (44.8) by the minors included in the questionnaire study. Among the men the shortest hours were those of assemblers (as in this study); of the workers classed as "chippers, grinders, sand-blasters, tumblers, and cleaners";<sup>33</sup> of cushion makers and cutters (trim shop); and of top builders and back hangers. The longest hours among the men were those of hardeners and furnace tenders and of machine setters. Among the women, assemblers, drill-press operators, and lathe operators worked the shortest hours and bench hands in the machine shop the longest.<sup>34</sup>

### Legal limitations on hours.

The Michigan law limited the weekly hours of work of all women and of boys under 18 in manufacturing establishments to 54.<sup>35</sup> Hours for both girls and boys under 16 were further affected by the Federal child labor law, which placed a tax of 10 per cent upon the yearly

<sup>30</sup> See General Table V.

<sup>31</sup> See p. 10.

<sup>32</sup> See General Table IV.

<sup>33</sup> Corresponding to foundry and core-room laborers in the classification here used.

<sup>34</sup> Wages and hours in automobile, car, electrical-apparatus, foundry, machinery, machine-tool, and typewriter industries. U. S. Department of Labor, Monthly Labor Review, June, 1920, pp. 82-94.

<sup>35</sup> Howell's Annotated Statutes, 1913, sec. 4017, as amended by acts of 1919, No. 341.

net profits of any factory employing children of that age more than 48 hours a week.<sup>36</sup> Forty-seven minors, 2 per cent of those whose names appeared on the pay rolls and who reported hours had worked a greater number of hours during the week than the standard set by law. One of these was a 15-year-old boy who had worked a 50-hour week. Thirty-two were boys between 16 and 18 (14 per cent of the boys of those ages) who had worked more than 54 hours a week, and 14 were girls (6 per cent of the girls under 21) who had likewise been employed in violation of the 54-hour-week law.

The number of violations of the legal restrictions upon hours per day and upon work at night<sup>37</sup> is not known, because no data were secured for the hours of beginning and stopping work each day.

### EARNINGS.

During a period when the effect of war-time scarcity of labor and increased demand for workers was still evidenced in a higher level of wages than had ever been known in this country, it was not surprising to find that in many cases even young persons under 21 years of age were receiving large earnings. Of the 793 minors who answered the questionnaire and reported weekly wages, 44—all boys—had received from \$50 to \$75 a week, and 5 boys \$75 or more.<sup>38</sup> The median weekly earnings for all the minors employed were \$27. Twenty-three per cent of those reporting earnings had received \$35 or more, and only 17 per cent less than \$15.<sup>39</sup> A large proportion of those who were paid less than the median earnings had not worked a full week—83 per cent of the minors who received less than \$15 and 46 per cent of those who received less than \$25 had worked fewer hours than 36.

Earnings per hour were on a similarly high level. The median hourly wage was 60 cents. About one-third of the minors reporting wages per hour, according to Table 5, received from 50 to 60 cents, one-fourth from 60 to 70 cents, and slightly over one-fourth 70 cents or over.

<sup>36</sup> 40 Stat. L. 1138 (Revenue Act of 1918, approved Feb. 24, 1919, Title XII). The law in effect limited hours to a maximum of 8 per day for 6 days per week. This law was declared unconstitutional by the U. S. Supreme Court on May 15, 1922.

<sup>37</sup> The State law limited factory hours for women and for boys under 18 to 10 per day, and prohibited such work between 6 p. m. and 6 a. m. to girls under 18 and boys under 16. (Howell's Annotated Statutes, 1913, sec. 4017, as amended by acts of 1919, No. 341.)

<sup>38</sup> See General Table VI.

<sup>39</sup> See General Table VII. Earnings, like hours, were taken from a sample pay roll; and, as in the case of hours, data included information concerning many minors who had not been at work for the entire pay-roll period, and for many of the minor employees information could not be secured at all. See footnote 26, page 9.

TABLE 5.—*Earnings per hour,<sup>1</sup> by sex; minors in metal-manufacturing industries.*

Earnings per hour. <sup>1</sup>	Minors in metal-manufacturing industries.					
	Total.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	2,840	.....	2,536	.....	304	.....
Total reporting.....	2,183	100.0	1,937	100.0	246	100.0
20 cents, less than 30.....	19	.9	18	.9	1	.4
30 cents, less than 40.....	176	8.1	59	3.0	117	47.6
40 cents, less than 50.....	201	9.2	138	7.1	63	25.6
50 cents, less than 60.....	689	31.6	656	33.9	33	13.4
60 cents, less than 70.....	538	24.6	520	26.8	18	7.3
70 cents, less than 80.....	230	10.5	217	11.2	13	5.3
80 cents, less than 90.....	121	5.5	120	6.2	1	.4
90 cents, less than \$1.00.....	110	5.0	110	5.7	.....	.....
\$1.00 and over.....	99	4.5	99	5.1	.....	.....
Not on pay roll and not reported.....	2 657	.....	599	.....	58	.....

<sup>1</sup> Actual hourly earnings, computed by dividing the weekly earnings, including any bonus or overtime pay, by the number of hours worked.

<sup>2</sup> Includes 619 minors whose names did not appear on the pay roll and 38 whose earnings per hour were not reported.

### Earnings and hours.

With the high rates of pay prevailing, long hours were often coincident with large weekly earnings.<sup>40</sup> More than four-fifths of those who had worked 60 hours or over had earned \$35 or more. Instances were found where high pay had been received only after phenomenally long hours. A 19-year-old electric-truck driver who had worked 101½ hours during the week had received \$60; an 18-year-old furnace laborer was paid \$72 for 83 hours' work; a body inspector had worked 71 hours for \$51. On the other hand, one-fourth of those earning \$35 or over had worked only from 42 to 48 hours; and one-tenth, less than 42 hours. One 18-year-old core maker, for instance, had earned \$64 in a 45-hour week on a piece-rate basis; a paneler on piecework, in an automobile-body factory, received \$59 for a 35-hour week; and a drill-press operator in an automobile factory had earned \$65 in a 47-hour week.

### Earnings and sex.

Earnings would have averaged still higher had it not been for the lower wages paid to girls as compared with boys. While the median weekly earnings received by boys were approximately \$28, those for girls were about \$18. It might be thought that this difference is attributable to the longer hours worked by boys than by girls, but the median hourly earnings<sup>41</sup>—62 cents for boys and 41 cents for girls—show that the boys were getting about 50 per cent more per hour than the girls. Nor can the discrepancy be accounted for

<sup>40</sup> See General Table VII.

<sup>41</sup> See Table 7, p. 15.

by the occupations in which girls were engaged; for example, boys received a median wage of 63 cents for core making, and girls but 46 cents; for drill-press operating, boys received 68 cents and girls 53 cents. What proportion of these discrepancies were in violation of the Michigan law <sup>42</sup> requiring equal pay for equal work can not be determined, because neither the relative amount of work done by boys and girls nor the extent to which occupations having the same name actually involved the same kind of work is known.

### Earnings and age.

The median weekly earnings increased steadily with each year of age. Beginning with 16 years, the medians for each year were \$21.79, \$25.71, \$27.22, \$30.13, and \$32.23. For all the workers under 18 the median earnings were \$23.52. These earnings are considerably higher than those shown in a report on wages in Ohio manufacturing industries in 1919, which gives as the median wage for workers under 18, \$12.22 for boys and \$10.92 for girls.<sup>43</sup> While earnings in the metal-manufacturing industries were undoubtedly higher than in factories in general, the difference, when age is considered, is probably not so great as these figures indicate, since the Ohio industries may have included a larger proportion of children under 16 than were found in this survey.<sup>44</sup>

### Earnings and length of work histories.

Closely related to the increase of earnings as the worker grows older is the increase, shown in Table 6, coincident in general with years of experience in industry. The median hourly earnings increase from 54 cents for those who had worked less than one year to 60 cents for workers with between one and two years' experience, and rise to a maximum of 73 cents for the group who had had five years' experience. The drop to 69 cents for minors who had work histories of six years and 58 cents for those who had worked for seven years or more, though based upon a comparatively small number of instances, indicates that experience gained by starting to work at 14 years of age or younger may be more than offset, as a factor in earning power, by disadvantages incident to a too early substitution of industrial life for school training. The median weekly earnings, however, were higher for the boys who had worked six years or more than for any other group, showing, in connection with the drop in hourly earnings, that they had worked longer hours. Since no data are available to show what proportion of the working years of these

<sup>42</sup> Michigan, Acts of 1919, No. 239.

<sup>43</sup> Wages in Ohio Manufacturing Industries in 1919; U. S. Department of Labor, Monthly Labor Review, Feb. 1921, p. 85. The median wage is computed on the basis of the wage-earners group.

<sup>44</sup> Figures for Ohio are, nevertheless, probably more comparable with those found in this study than would be true of figures for most other States, since the minimum age for work in manufacturing establishments in Ohio was 15 years for boys and 16 for girls.

children had been spent in metal-working industries, no reliable conclusion can be drawn regarding the extent to which earning capacity was increased by experience in the industry. It is evident, however, that the boy or girl who had been at work for several years was rewarded by a higher wage, largely because of the maturity and industrial experience gained.

TABLE 6.—*Median earnings per hour, by length of work history; minors in metal-manufacturing industries.*<sup>1</sup>

Length of work history.	Minors in metal-manufacturing industries. <sup>1</sup>					
	Total.		Boys.		Girls.	
	Total reporting.	Median earnings per hour.	Total reporting.	Median earnings per hour.	Total reporting.	Median earnings per hour.
Total.....	791	Cents. 62.9	702	Cents. 64.8	89	Cents. 40.7
Less than 1 year.....	104	54.4	92	55.6	12	36.0
1 year, less than 2.....	139	59.7	122	61.7	17	46.3
2 years, less than 3.....	190	61.8	162	64.1	28	39.3
3 years, less than 4.....	163	66.9	151	68.2	12	40.0
4 years, less than 5.....	109	65.9	95	67.6	14	44.0
5 years, less than 6.....	54	72.5	50	73.6	4	.....
6 years, less than 7.....	15	69.0	14	70.0	1	.....
7 years and over.....	9	58.3	8	60.0	1	.....
Not reported.....	8	.....	8	.....	.....	.....

<sup>1</sup> Questionnaire group.

<sup>2</sup> Excludes 122 who did not report earnings per hour.

### Earnings and occupation.

As shown by Table 7, the highest median hourly earnings—80 cents an hour or more—were paid to boys working as painters, trimmers, body assemblers, motor, final, and outfit assemblers and sheet-metal workers. Wages averaged lowest for apprentices, oilers, straighteners, stock and tool-crib workers, and laborers and helpers, all of whom received between 50 and 60 cents an hour. Among the girls, the lowest rates were paid to inspectors and assemblers (36 and 38 cents, respectively) and the highest (48 cents) to machine operators.

TABLE 7.—*Earnings and median earnings per hour, by occupation and sex; minors in metal-manufacturing industries.*

Occupation and sex.	Minors in metal-manufacturing industries.									
	Earnings per hour.									Not on pay roll and not reported.
	Total.	Median earnings per hour.	Less than 50 cents.	50 cents, less than 60.	60 cents, less than 70.	70 cents, less than 80.	80 cents, less than 90	90 cents, less than \$1.	\$1 and over.	
Boys.....	2,536	\$0.62	215	656	520	217	120	110	99	1,599
Apprentices.....	196	.51	75	41	27	13	.....	3	.....	37
Assemblers.....	196	.79	4	28	21	30	30	19	27	37
Motor, final, and outfit.....	64	.81	2	3	6	16	9	12	8	8
Body.....	29	.84	1	1	1	6	7	2	6	5
Other.....	103	.71	1	24	14	8	14	5	13	24

<sup>1</sup> Includes 572 boys whose names did not appear on pay roll and 27 whose earnings per hour were not reported.

TABLE 7.—*Earnings and median earnings per hour, by occupation and sex; minors in metal-manufacturing industries—Continued.*

Occupation and sex.	Minors in metal-manufacturing industries.									Not on pay roll and not reported
	Earnings per hour.									
	Total.	Median earnings per hour.	Less than 50 cents.	50 cents, less than 60.	60 cents, less than 70.	70 cents, less than 80.	80 cents, less than 90.	90 cents, less than \$1.	\$1 and over.	
Bench.....	42	\$0.65	3	8	13	2	3	5	2	6
Blacksmiths, forgemen, hammermen and welders.....	8	.65		2	3	1	1			1
Coremakers.....	15	.63	2	4	3	1	1	1	2	1
Dippers, sprayers, rubbers, and sanders.....	10	.65		4	2			1	3	
Draftsmen and designers.....	13	.65	1	2	2	2	1			5
Foremen and superintendents.....	6				3	1				2
Heaters.....	14	.60	2	4	3		2	1		2
Heat treat.....	7	.75				1	2			2
Inspectors.....	227	.64	16	47	86	31	3	3	1	40
Final.....	14	.58	1	5	2	2				4
Other.....	213	.64	15	42	84	29	3	3	1	36
Laborers and helpers.....	580	.59	45	186	137	24	13	9	3	163
Foundry and core room.....	105	.57	17	39	33	2		1		13
Machine helpers.....	29	.63	2	6	6	3	2			10
Messengers.....	14	.50	8	4						2
Truckers.....	202	.58	88	81	39	6	7	1		60
Other.....	230	.62	10	56	59	13	4	7	3	78
Machinists.....	159	.64	3	43	28	18	5	14	3	45
Adjusters.....	14	.59		7	3	1		1		2
Repairs.....	97	.66	1	23	18	14	4	6	2	29
Setters.....	6	.63	1	1	2	1				1
Tester.....	36	.61	1	11	4	1	1	7		11
Other.....	6			1	1	1			1	2
Machine operators.....	542	.66	23	101	121	56	38	28	36	139
Drills.....	115	.68	2	19	28	11	11	7	10	27
Grinders.....	98	.67	1	18	29	14	9	4	4	19
Lathes.....	94	.67	4	17	19	10	5	5	7	27
Milling.....	81	.61	10	21	19	4	3	7	3	14
Presses.....	19	.65	1	3	3	2	1		1	8
Screw.....	29	.67	2	4	9	1	4	2	3	4
Thread.....	11							1		10
Other.....	95	.68	3	19	14	14	5	2	8	30
Millwrights.....	5			1	1		1			2
Molders.....	6	.65	1	1	2	2				7
Oilers.....	15	.55	2	4	2					3
Painters.....	17	.93		3	1	1	1	4	4	7
Sheet-metal workers.....	23	.80		1	2	5	4	2	2	3
Stock and tool-crib workers.....	270	.56	28	121	34	9	1	5	1	71
Counters.....	32	.58	1	16	8		1			6
Stock chasers.....	17	.54	3	12						2
Other.....	221	.56	24	93	26	9		5	1	63
Straighteners.....	22	.56	2	14	1		3		1	1
Toolmakers.....	15	.73		4	1	6	1	1		2
Trimmers.....	60	.87		9	5	5	10	10	12	9
Other.....	88	.61	8	26	22	9		4	2	17
Girls.....	304	.41	181	33	18	13	1			2 58
Assemblers.....	35	.38	19	6	2	1				7
Core makers.....	16	.46	9		4	2				1
Inspectors.....	83	.36	63		1					19
Machine operators.....	77	.48	33	18	5	3	1			17
Drills.....	8	.53	2	4						2
Milling.....	8	.47	5	2			1			
Sewing.....	26	.49	11	5	4	1				5
Thread.....	15	.43	7	2	1					5
Other.....	20	.48	8	5		2				2
Stock and tool-crib workers.....	18	.41	14		2					3
Trimmers.....	44	.45	25	7	3	6				3
Other.....	31	.45	18	2	1	1				9

\*Includes 47 girls whose names did not appear on pay roll and 11 whose earnings per hour were not reported.



### Method of payment.

Methods of payment varied widely in different factories and for different kinds of work. Somewhat over half of all the minors who replied to the questionnaires were paid principally on a time-rate basis, a third were on piecework, and the remainder were not on the pay roll from which figures were secured. Several factories paid bonuses of one kind or another—for instance, one gave a bonus for work turned out in excess of a set standard, and another for night work and for good attendance. Most of the factories paid time and a half for overtime work, but two paid only time and a quarter and five paid only the regular rates. Although most of the factories computed overtime by the day, three paid extra for overtime only if the total hours worked for the week or pay period were in excess of the total regular hours for the factory during that time.

In 12 of the factories visited, employing 53 per cent of the minors included in the survey, the pay-roll period was two weeks or one-half month; in the others the employees were paid by the week.

### PROMOTION.

#### Possible lines of promotion.

More important than the initial wage in an appraisal of factory opportunities is the possibility of advancement, either to a supervisory position, such as that of boss or foreman, or to work of greater skill or variety. In regard to this point as definite information as possible was secured from employment managers in the factories studied, but types of machines and methods of factory organization varied so widely in the different plants that it is difficult to do more than suggest methods by which employees qualified for advancement.

Two or three employers said that for most of their minor workers there were no opportunities for promotion. In most of the factories visited, however, some of the more desirable vacancies were filled by promotion from within the factory and some by bringing in men from outside. One large automobile factory even made it a practice to transfer laborers to production work after they had been in the factory two months. Except for their apprentices, however, employers had worked out no "line of promotion" which definitely assured advancement to skilled or more responsible work; but when a trained man from outside could not conveniently be found to fill a position which demanded skill and experience, in many cases some one within the factory whose work had been such as partially to fit him for it would be given the position. Thus, although no definite system of promotion existed, experience in certain kinds of work often helped to fit the worker for a higher-grade job.

A laborer in the foundry, who wheels sand to the molders, cleans castings, tends the rattlers, or does other odd jobs, will learn by

observation how molds are made, how the hot metal is handled, and what are the danger points of the workroom. The foreman and the skilled workmen come to know him and are able to judge his native ability and his willingness to work. When a molder's helper is needed, this knowledge of production methods gives the foundry laborer an advantage over applicants from outside the factory who have not had experience as molder's helpers in other foundries. In the same way, but more definitely, the molder's helper gains experience in his work which fits him to become a molder.

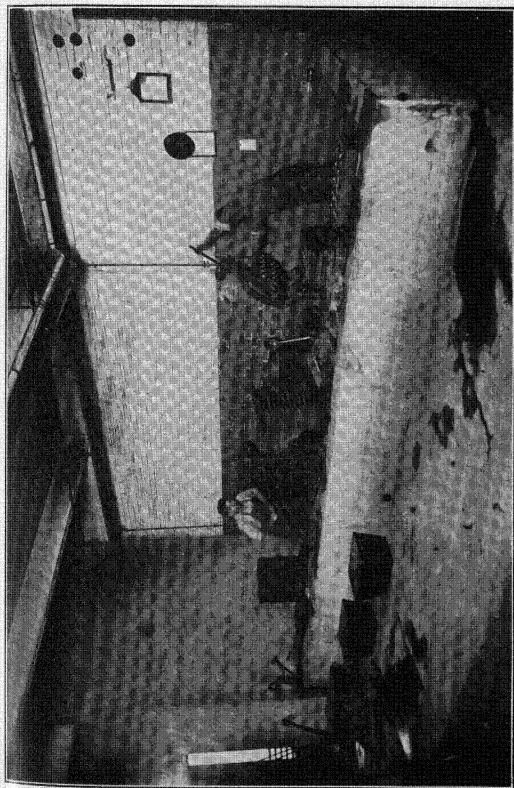
In the machine shop the laborer, who cleans up around the machines, the trucker, who keeps the operators supplied with stock and takes the finished product from one machine to the next and then to the stock room, and the oiler, who works near the machines constantly, will see how machines are controlled and how the finished stock should look. They will learn the common shop terms and as they become accustomed to working near machinery they will be less liable to injury from it. When no experienced men apply for vacancies, the foreman is likely to select the most promising of these machine-shop laborers as operator on one of the simpler machines, such as the drill press, the threading or tapping machine, or the rough grinder. The worker thus becomes familiar with the method of power transmission, which seldom varies from one machine to another in the same factory. This experience, together with a knowledge of how to control a simple machine and to produce work with accuracy and speed, is a help in learning more difficult work or in operating a more complicated machine, such as the lathe, the boring mill, or the tool grinder. Mastery of several types of machine operation helps to fit the operator for the work of adjusting machines to different types of work.

Boys who happen to be selected for work as tool grinders become familiar not only with machine operation but also with the names and uses of various kinds of tools. This helps to fit them for work as toolmakers, and experience as toolmaker is considered practically indispensable to tool designers. Familiarity with the tools used in the shop, which is gained by the tool-room and tool-crib clerks and by laborers in handling the tools or carrying them to parts of the factory where they are needed, is an asset for a tool grinder or tool-lathe operator.

An inspector must be able to judge whether the particular piece of work which he is inspecting is up to the standard set. Where the work to be judged is very simple, as in the case of inspecting small sheet-metal parts,<sup>45</sup> workers with no previous factory experience may do it. Where, on the other hand, inspection comes as the last step in the production of a complex machine, it demands a worker who is familiar with the whole production process. For

---

<sup>45</sup> See p. 90.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE IV.—FOUNDRY. MOLDING MACHINES.

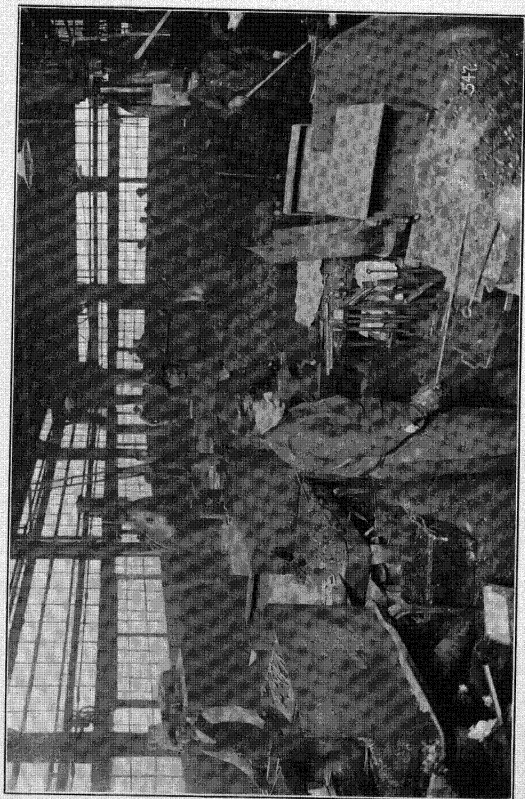


PLATE V.—FORGE SHOP. BLACKSMITH IN FOREGROUND; FORGES AND SMALL STEAM HAMMER IN BACKGROUND.

PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

instance, in one of the automobile-body factories inspectors in the sheet-metal department were chosen from the ranks of the markers or the rotary-shear operators,<sup>46</sup> and might then be promoted to the position of foreman. This situation was found in more of the factories visited than was the method of advancement reported by a large automobile factory in which inspectors of rough stock or sheet-metal parts might be selected as inspectors of enamel bodies or machine-shop products, and might then be advanced to final inspection or testing.

Laborers, truckers, and messengers, whose work brings them in contact with assembly work, pick up information which helps to fit them for an assembler's job. Assemblers who have learned how to put together some small subassembly, such as automobile pumps, may be selected because of this experience to do more complicated work, such as transmission or steering-gear assembly, and then promoted to "line work," where a gang of men work together to put the engine on the frame or do a similar piece of work.

Work in the stock room, such as that of a checker, counter, or sorter, is often considered valuable experience for an office employee or for a stock chaser. Moreover, since handling stock brings some familiarity with much of the factory work, these employees may be selected for advancement in some other department of the factory.

The description of the work of the tool designer and detailer in the drafting room<sup>47</sup> indicates clearly how experience in the lower-grade work is necessary for the draftsman who is going to progress.

Positions such as those of foreman, gang boss, or assistant foreman demand not only wide experience in the particular department or process supervised but also executive ability and leadership, which are not to be gained through factory experience alone. It is true, however, that experience in minor executive positions such as assistant foreman or gang boss is valuable training for a position of greater responsibility, such as that of foreman or production manager.

### **Training for promotion.**

According to statements made by the employment managers interviewed, sufficient training to qualify the beginner for nearly all the promotions open to him in these industries could usually be secured through shop experience alone. There were a few exceptions: For instance, one employer said that he wished inspectors to have technical-school training before promoting them to machine work, and another stated that a toolmaker or tool grinder must have studied mechanical drawing either in school or in the factory drafting room before he could become a tool designer.

<sup>46</sup> See p. 86.

<sup>47</sup> See p. 65.

### Chances for promotion.

Actual opportunities for promotion are much fewer than would seem to be the case when only the possible line of promotion or the training for promotion is considered, since no matter how well trained the worker, his actual advancement must wait upon the occurrence of vacancies in the higher ranks or expansion of the factory. A machine hand may have the experience and ability to do the work of a machine setter, but as few are needed in the machine shop he can not hope to be promoted until one of the machine setters leaves his job. Even then there may be a dozen men as well qualified as he to fill the one position.

A typical situation illustrative of this point was seen in one of the large factories visited. The assemblers, stock and tool room workers, bench men, repair men, oilers, and laborers—about 920 in all—might become machine operators, of whom there were 820 in this plant. These in turn might become machinists or machine setters, of whom there were only 117. The final promotion to foreman or assistant foreman of the machine shop was of course possible to only a few workers. Of all the workers in the factories visited only 3 per cent were foremen or superintendents; 3 per cent machine setters, fitters, adjusters, testers, or other machinists; and 1 per cent toolmakers. Apprentices, the group who were fairly sure of promotion to a journeyman's status, constituted only 2 per cent of the total.

Promotion was not open to girls to the same extent as it was to boys. Employers who employed girls as sewing-machine, tapping, or threading-machine operators said there were no better positions open to them. In one factory employing both boys and girls as counters in the inspection department the position of foreman was open only to men. On some kinds of work, such as core making, promotion of girls was not practicable because the work to which the boys might be promoted—in this instance, molding—was too heavy for the girls.

### INDUSTRIAL HISTORIES.

A study of the industrial histories of the minors in the factories surveyed brings out important facts regarding their age at first going to work, the extent of shifting from job to job, and the gain or loss incident to such changes. Although work histories secured by the questionnaire method are likely to be incomplete and to minimize and obscure the difficulties the young workers have had in attempting to find themselves industrially, the analysis indicates the need for organized effort toward making the child's transition from school to work less abrupt and costly.

For groups such as those included in this study this problem of adjustment is not primarily one which each local community can solve for itself. Four per cent had last attended school in rural

communities—25 in Michigan and 13 outside the State. Somewhat less than one-third had last attended school in the city in which they were working at the time of the study. Twenty-two per cent had come from schools in other cities in the State and 35 per cent from schools in cities outside Michigan.<sup>48</sup> While this is an indication that minors go from city to city and even from State to State in search of the work desired, it may have been brought about, at least in part, by the abnormal demand for workers in the Michigan factories, particularly in the automobile industry, at the time of this survey.

There seems to be little tendency among the minor workers to follow the trade in which their fathers had been engaged. Only 13 per cent had fathers who were employed in metal manufacturing and less than half (44 per cent) had fathers working in any manufacturing or mechanical industry.<sup>49</sup>

### Age at going to work.

Many of the minors employed in the factories studied had left school for work at an earlier age than would now be permitted by the Michigan child labor and education laws.<sup>50</sup> Table 8 shows that 26 (3 per cent of those replying to the questionnaire) had started when under 14 years of age and of these 10 were under 12 when they began. About one-third entered industry before they were 16, while slightly over that proportion began in the single year between their sixteenth and seventeenth birthdays. The general tendency was the same among both girls and boys. The foreign-born minors, on the whole, went to work younger than the native. Of the foreign born 82 per cent, and of the native born only 64 per cent started work before they were 17 years of age.

TABLE 8.—*Age at beginning work, by sex; minors in metal-manufacturing industries.<sup>a</sup>*

Age at beginning work.	Minors in metal-manufacturing industries. <sup>a</sup>					
	Total.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	913	100.0	818	100.0	95	100.0
Under 10 years.....	1	.1	1	.1	.....	.....
10 years, under 12.....	9	1.0	9	1.1	.....	.....
12 years, under 13.....	7	.8	4	.5	3	3.2
13 years, under 14.....	9	1.0	8	1.0	1	1.1
14 years, under 15.....	86	9.4	75	9.2	11	11.6
15 years, under 16.....	181	19.8	165	20.2	16	16.8
16 years, under 17.....	326	35.7	294	35.9	32	33.7
17 years, under 18.....	173	18.9	153	18.7	20	21.1
18 years, under 19.....	86	9.4	76	9.3	10	10.5
19 years, under 21.....	23	2.5	21	2.6	2	2.1
Not reported.....	12	1.3	12	1.5	.....	.....

<sup>a</sup> Questionnaire group.

<sup>48</sup> See General Table IX.

<sup>49</sup> See General Table VIII.

<sup>50</sup> See pp. 6 and 31. Some of the minors may have been subject to laws with lower standards when they left school, either laws of other States or earlier Michigan laws.

### The first position.

*Industry.*—An indication of the shifting among minor workers, probably due in part to the desire for experiment and in part to the greater variety of opportunities open to them as they grew older, is seen in the fact that less than one-half (47 per cent) had found their first work in the metal-manufacturing industries. Table 9 shows that the tendency toward entering these industries, and manufacturing and mechanical industries in general, tended to increase with the age of beginning work.<sup>1</sup> This increase may be due in part to the expansion of the industry during the same period. About two-thirds, in all, had gone into manufacturing and mechanical occupations and 15 per cent into the groups classified under "Trade" or "Transportation." Forty-seven per cent of the minor workers in the automobile factories (including manufacture of automobile bodies and parts), and only 33 per cent of the foundry and machine-shop workers, reported that their first job was in the iron and steel manufacturing industries.

TABLE 9.—*Industry of first position, by age at going to work; minors in metal-manufacturing industries.<sup>1</sup>*

Industry of first position. <sup>2</sup>	Minors in metal-manufacturing industries. <sup>1</sup>					
	Total.	Age at going to work.				
		Under 15 years.	15 years, under 16.	16 years, under 17.	17 years, under 18.	18 years and over.
Total.....	100.0	100.0	100.0	100.0	100.0	100.0
Agriculture, forestry, animal husbandry ..	3.1	4.5	3.3	3.1	2.3	2.8
Extraction of minerals ..	3.4	7.1	3.3	3.4	2.3	1.8
Manufacturing and mechanical ..	64.5	43.7	60.2	71.8	64.2	73.4
Iron and steel ..	42.4	26.8	32.0	47.2	46.2	54.1
Other metal ..	4.5	2.7	6.6	3.4	5.2	5.5
Other manufacturing and mechanical ..	17.6	14.3	21.5	21.2	12.7	13.8
Transportation ..	6.5	9.8	6.1	5.2	9.2	3.7
Trade ..	8.3	16.1	9.4	6.4	6.9	7.3
Public service ..	.8	-----	1.7	-----	1.7	.9
Professional service ..	.7	.9	-----	.3	.6	2.8
Domestic and personal service ..	2.2	1.8	4.4	2.1	.6	1.8
Clerical ..	.1	-----	-----	-----	-----	.9
Not reported ..	10.5	16.1	11.6	7.7	12.1	4.6

<sup>1</sup> Questionnaire group.

<sup>2</sup> The census classification of industries and occupations has been followed as closely as possible.

*Duration.*—Among the minors who reported that they had been at work for more than one year and who reported the duration of their first position, 11 per cent, according to Table 10, had stayed in their first jobs less than three months. Only 48 per cent had stayed a year or more. Girls remained slightly longer than boys in their first positions. Short as these periods are, a study of younger child work-

<sup>1</sup> A slight bias in this direction may result from the method of selection of the group, since all the children included in the study were employed in metal-manufacturing industries at the time of the investigation.



ers—between 14 and 16 years of age—in Connecticut<sup>52</sup> shows an even shorter duration of first positions. Of those who had been at work at least 21 months, 34 per cent had left their first jobs in less than 3 months and 48 per cent in less than 6 months.

TABLE 10.—*Duration of first position, by sex; minors in metal-manufacturing industries.*<sup>1</sup>

Duration of first position.	Minors in metal-manufacturing industries. <sup>1</sup>				
	Total.		Boys.		Girls. <sup>2</sup>
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	784	-----	703	-----	81
Total reported.....	552	100.0	489	100.0	63
Less than 1 year.....	285	51.6	257	52.6	28
Less than 3 months.....	61	11.1	55	11.2	6
3 months, less than 6.....	81	14.7	77	15.7	4
6 months, less than 1 year.....	143	25.9	125	25.6	18
1 year and over.....	267	48.4	232	47.4	35
1 year, less than 1½.....	88	15.9	77	15.7	11
1½ years, less than 2.....	49	8.9	41	8.4	8
2 years, less than 2½.....	63	11.4	55	11.2	8
2½ years, less than 3.....	14	2.5	14	2.9	-----
3 years and over.....	53	9.6	45	9.2	8
Not reported.....	232	-----	214	-----	18

<sup>1</sup> Questionnaire group. Only those minors were included who had been at work one year or over. The few positions (36) which had lasted one year or over and had not been terminated at the time of the study were distributed according to the most probable duration.

<sup>2</sup> Per cent not shown where base is less than 100.

<sup>3</sup> Excludes 129 children (122 who had been at work less than 1 year and 7 who had not reported length of work history).

The present study indicates that the child who went to work early in life stayed in his first job longer than the child who started at a later age. Table 11 shows that the median duration of first positions decreased from 20.8 months for those beginning work under 15 to 9.3 months for those beginning at 18 years of age or over. One employer said that he considered the 18-year-old group of applicants floaters and did not wish to employ them. This tendency, together with relatively higher average age for entering manufacturing and mechanical industries,<sup>53</sup> may partly explain the fact that young persons entering those industries, particularly iron and steel, remained there for a shorter time on the average than those entering other kinds of work.

<sup>52</sup> Woodbury, Robert Morse: *Industrial Instability of Child Workers*, p. 18. U. S. Children's Bureau Publication No. 74, Washington, 1920.

<sup>53</sup> See p. 22.

TABLE 11.—*Median duration of first position, by age at beginning work; minors in metal-manufacturing industries.<sup>1</sup>*

Age at beginning work.	Minors in metal-manufacturing industries. <sup>1</sup>		Age at beginning work.	Minors in metal-manufacturing industries. <sup>1</sup>	
	Total.	Median duration of first position in months.		Total.	Median duration of first position in months.
Total.....	2 666	11. 33	16 years, under 17.....	238	11. 20
Under 15 years.....	71	20. 78	17 years, under 18.....	129	9. 84
15 years, under 16.....	127	13. 39	18 years and over.....	94	9. 32
			Not reported.....	7	.....

<sup>1</sup> Questionnaire group.<sup>2</sup> Excludes 247 minors who did not report duration of first position.

### Number of positions held.

Table 12 shows that 120, or over one-eighth of the minors included in the questionnaire survey, had each held but one position, but of these nearly two-thirds had not been at work as long as a year. On the other hand, there was much shifting from job to job. Thirty-two minors, none of whom had worked as long as two years, had each held four or more different positions. One boy who had been at work for only about three years had had nine positions in that time. These figures probably understate the number of positions held, because the minors who had shifted often might have forgotten to record all their positions. Even allowing for this possibility, the figures show a decided tendency on the part of those who had been at work for several years to stay on the job longer. For those who had been at work over five years the time spent in each position averaged more than twice as long as for those who had been at work between one and two years.

Girls had had fewer positions on the average than boys. Considerably larger percentages of the girls than of the boys had each held only one, two, or three positions, and correspondingly smaller percentages of the girls had each held four, five, or six or more. Since the work histories of the girls were only slightly shorter than those of the boys, it is thus evident that the girls tended to stay longer in their positions than the boys.



### **Time in present occupation and industry.**

In this study the time in present occupation means not the time with present employer but the time in the specific kind of work in which the boy or girl was engaged when the survey was made. If a minor had worked at several different occupations in the same factory, the time in present occupation would be shorter than the time with the present employer; but if (as was seldom the case) he had worked at the same occupation in different factories, it would be longer.

In contrast with the situation in regard to the duration of the first positions, the girls had stayed on the average a shorter time than the boys in the occupations and industries in which they were working at the time of the survey. The median time in the present occupation was 7.9 months for boys and 6.2 months for girls; the time in the present industry was 14.5 months for boys and only 9.8 months for girls. This may be due to the fact that the girls had not been at work as long on the whole as had the boys and, as already shown, more shifting occurred in the early part of industrial life.

The time in the present occupation also varied considerably for different types of work. For machine operators the median time already spent in the occupation was 12.2 months, for assemblers 10.3 months, for apprentices 7.5 months, and for inspectors 8.5 months; but for laborers' helpers and stock and tool room workers the median was only about 5 months.

### **Increase in earnings.**

A comparison of the average weekly earnings received in the first position with the average weekly earnings in the present position<sup>54</sup> shows a median increase of \$15.07. Only 23 (3 per cent) reported a decrease; 69 (8 per cent) reported an increase of \$25 or more. The general rise of wages during the years immediately preceding the survey, which was particularly evident in the automobile and other metal-working industries, doubtless accounts for a considerable proportion of this advance.

### **GENERAL EDUCATION.**

Two-thirds of the minors, according to Table 13, had completed the eighth or a higher grade. Not far from half of this group, 30 per cent of the whole number, recorded one or more years of high-school attendance, and of these one-sixth were high-school graduates. Among the high-school graduates six had had some further education. That as a class these workers had somewhat more than the average educational background is indicated by the fact that the

<sup>54</sup> Data for increase are based on the average weekly earnings in first and in present positions as obtained from the questionnaires. See General Table X.

proportion, 67 per cent, who had completed the eighth or a higher grade is larger than the average for minors of the same ages in the United States as a whole.<sup>55</sup>

The girls in general had not advanced so far as the boys.<sup>56</sup> None had graduated from high school, and only 23 per cent, as compared with 31 per cent of the boys, had completed any high-school grade. Among the nativity groups,<sup>57</sup> the native white children of native fathers stood highest, with 35 per cent who had advanced further than completion of the eighth grade; the native white children of foreign fathers next, with 29 per cent; and the foreign-born children last, with 20 per cent.

TABLE 13.—*Grade completed, by occupation; minors in metal-manufacturing industries.<sup>1</sup>*

Grade completed.	Minors in metal-manufacturing industries. <sup>1</sup>						
	Total.	Occupation.					
		Assem- blers.	Inspec- tors.	Laborers and helpers.	Machine opera- tors.	Stock and tool room workers.	Other.
Total.....	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Third grade and lower.....	0.9	.....	.....	1.6	0.5	.....	1.9
Fourth grade.....	1.8	2.8	1.6	4.1	1.5	.....	1.2
Fifth grade.....	3.8	0.9	2.3	8.9	3.6	1.0	4.7
Sixth grade.....	7.9	8.5	1.6	14.6	4.6	7.9	10.1
Seventh grade.....	15.8	18.9	14.8	12.2	18.3	16.8	14.3
Eighth grade.....	36.7	41.5	37.5	36.6	41.1	35.6	31.4
First year high school.....	11.7	8.5	18.0	4.9	11.7	12.9	12.8
Second and third year high school.....	13.0	12.3	16.4	6.5	12.2	19.8	12.8
Fourth year high school and higher education.....	5.0	4.7	7.8	2.4	4.6	5.0	5.4
Not reported.....	3.4	1.9	.....	8.1	2.0	1.0	5.4

<sup>1</sup> Questionnaire group.

The educational opportunities of these minors may have varied with the localities where they had lived while they were going to school.<sup>58</sup> Most of them had come from city schools; only 38, or about 1 in 25, had last attended school in a rural community. But since the figures show only the locality of the school last attended and not the period of attendance, no significance can be attached to the differences in the proportions of children from different types of schools who had completed specified grades.

<sup>55</sup> It is estimated that only 63.4 per cent of the children in the United States who enter the first grade enter the eighth grade. Bonner, H. R., *Statistics of Universities, Colleges, and Professional Schools, 1917-18*, p. 30, U. S. Bureau of Education, Bulletin, 1920, No. 34. Washington, 1921.

<sup>56</sup> See General Table XI.

<sup>57</sup> See General Table XI. The negro group was considered too small to be included in this comparison.

<sup>58</sup> See General Table IX.

### **Grade completed and occupation.**

The demands of the occupations in which the minors were engaged constitute a further factor in determining the general educational qualifications of the occupational groups. For nearly all the occupations in which minors were commonly employed—such as apprentice, assembler, inspector, and machine operator—most employers preferred workers with an eighth-grade education, though in some cases (especially for machine operators) the sixth or seventh grade was equally acceptable. Others, while believing that a common-school education was necessary for advancement, did not consider it an indispensable qualification for entrance upon the work of the factory. A high-school education, at least, was thought necessary for chemists, melter's assistants, toolmaker's apprentices, and for a few other technical jobs. Employers were less likely to make any educational requirements for laborers and helpers, and for the simpler types of stock and tool-room work. It is therefore not surprising to find, as is shown in Table 13, that although only 67 per cent of all the minors had completed the eighth or a higher grade, 80 per cent of the inspectors and 70 per cent of the machine operators had done so, as compared with 50 per cent of the laborers and helpers.

In a few cases the employer's demand of a common-school education was caused by the nature of the work. One employer, for instance, employed eighth-grade graduates as millwright's helpers because they needed some knowledge of mathematics; another preferred them for skilled inspection work and for machine operators because they had to learn to read blue prints. On the other hand, a study of the work done in those occupations for which completion of the eighth grade was usually held necessary<sup>59</sup> shows that often this degree of general education was demanded not because it was needed in the actual performance of the job but because it indicated a level of general intelligence and mental training which the employer thought desirable in the performance of even the relatively simpler types of work.

### **Grade completed and earnings.**

Although wages tended to increase with years of industrial experience (up to six years) the median hourly earnings of minors who had completed specified grades, as shown in Table 14, indicate that preliminary education often more than offsets experience as a factor in earning power. High-school graduates, who as a group reported a median work history of slightly less than two years, showed median hourly earnings of 67 cents, or 5 cents an hour more than was reported for the whole group who had worked two years but less than three. The median expected earnings for this group would have been only

<sup>59</sup> See p. 63 et seq. for descriptions and requirements of occupations.

61 cents an hour.<sup>60</sup> The same tendency is shown at the other end of the scale, for while those who had completed only the seventh grade or less reported median work histories of slightly over three years and actual median earnings of 60 cents an hour, the expected <sup>60</sup> median earnings would be 64 cents an hour.<sup>61</sup> In spite of relative inexperience in the factory, the median earnings of the young persons who had gone beyond the first year of high school were 7 cents an hour more than those received by the workers who had not completed the sixth grade.

TABLE 14.—*Median hourly earnings and median length of work history, by grade completed; minors in metal-manufacturing industries.<sup>1</sup>*

Grade completed.	Minors in metal-manufacturing industries. <sup>1</sup>		Grade completed	Minors in metal-manufacturing industries. <sup>1</sup>	
	Median earnings per hour.	Median length of work history.		Median earnings per hour.	Median length of work history.
	Cents.	Yrs. Mos.		Cents.	Yrs. Mos.
Total.....	62.9	2 9	First-year high school.....	60.5	2 6
Sixth and lower grades.....	62.4	3 3	Second and third year high school.....	67.8	2 7
Seventh grade.....	58.2	3 —	Fourth-year high school and higher education.....	67.1	1 11
Eighth grade.....	63.9	2 9			

<sup>1</sup> Questionnaire group.

These differences are, to be sure, rather small, but the money value of an education can not of course fairly be measured by a study of earnings received only by workers under 21. They are not mature enough and have not been at work long enough to acquire the experience necessary for positions demanding much knowledge, skill, or responsibility. Furthermore, the additional experience gained by those who cut short their school life to go to work gives them an initial advantage over those who stay in school longer which later disappears.

#### Age at leaving school and retardation.

A correlation of grade completed and age at leaving school gives a rough index of retardation, even though standards may vary from school to school. Of the minors reporting the age at which they had left school and the grade they had completed, as shown by Table 15, 3 per cent had left school before they were 14 years of age; and 38 per cent had left between their fourteenth and sixteenth birthdays. Practically the same number left in the single year after they were 16 as in the two previous years. A somewhat larger number left school at the ages of 14 and 15 years than went to work in those years,

<sup>60</sup> Expected on the basis of wages earned by all minors with the same duration of industrial experience.

<sup>61</sup> See also Table 6.

indicating a transition interval between school and work.<sup>62</sup> No definite conclusion as to the amount of schooltime lost in this interval can be drawn, however, because it is not known in how many cases the interval occurred when school was not in session. The average age at leaving school was higher for the minors included in this study than was found in a study of working boys 16, 17, and 18 years of age in New York State,<sup>63</sup> made in 1918. In cities of over 25,000 inhabitants, excluding Greater New York,<sup>64</sup> 3 per cent left school before they were 14 years of age and 61 per cent between the ages of 14 and 16 years.

TABLE 15.—*Retardation, by age at leaving school; minors in metal-manufacturing industries.*<sup>1</sup>

Age at leaving school.	Minors in metal-manufacturing industries. <sup>1</sup>										
	Total.	Retarded.						Normal.		Advanced.	
		Total.		1 and 2 years.		3 years and over.					
		Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>	Num-ber.	Per cent. <sup>2</sup>
Total.....	* 867	453	52.2	375	43.3	87	9.0	347	40.0	67	7.7
Under 14 years.....	27	7	.....	5	.....	2	.....	9	.....	11	.....
14 years, under 15.....	113	32	28.3	29	25.7	3	2.7	67	59.3	14	12.4
15 years, under 16.....	220	88	40.0	72	32.7	16	7.3	122	55.6	10	4.5
16 years, under 17.....	335	248	74.0	213	63.6	35	10.4	75	22.4	12	3.6
17 years and over.....	172	78	45.3	56	32.6	22	12.8	74	43.0	20	11.6

<sup>1</sup> Questionnaire group.

<sup>2</sup> Not shown where base is less than 100.

<sup>3</sup> Excludes 46 minors for whom age at leaving school or grade completed was not reported or who were still in part-time day school or working on vacation permits.

A large percentage of the minors, as shown by Table 15, had not completed normal grades for their ages, even under the comparatively conservative standard adopted for this report. According to that standard, a child who left school at 14 years of age was considered to have made normal progress if he had successfully passed through either the seventh or the eighth grade; one who had left at 15 years of age<sup>65</sup> was held to have completed a normal grade if he had finished the eighth grade or one year of high school; and so on. On this basis, 52 per cent of the minors had failed to complete normal grades for their ages, and a sixth of these—nearly 1 in 10 of the whole group—were three or more years retarded.

<sup>62</sup> See Table 8.

<sup>63</sup> Burdge, Howard G.: *Our Boys, A study of 245,000 16-, 17-, and 18-year-old employed boys of the State of New York*, p. 89. New York Military Training Commission, Bureau of Vocational Training, Albany, 1921.

<sup>64</sup> This group is used as most comparable with the cities included in the Michigan study.

<sup>65</sup> Even if a child did not start his school life until 7 years of age, which was the age required by the Michigan compulsory education law and by the laws of most of the States, he would have completed the eighth grade at the age of 15 years if he had gone straight through the grades.



A survey of the public schools in 80 representative cities in the United States, made by the United States Bureau of Education for the school year 1917-18, showed among all the pupils in school an average of only 21 per cent retarded,<sup>66</sup> but these figures included children of all ages. The proportion of retardation among the minors included in this survey was also higher than was found in the New York study previously referred to,<sup>67</sup> which showed that in cities of over 25,000, excluding Greater New York, 47 per cent of the boys who had left school between the ages of 14 and 17 were retarded, as compared with 55 per cent of the corresponding group of minors included in the present study. In a study of working children between 14 and 16 years of age in Boston, where the same standard was used as in this study, it was found that slightly less than one-third of the children included had failed to complete normal grades, and a somewhat larger percentage than in this study had completed grades higher than normal for their ages.<sup>68</sup>

While both the Boston and the Michigan figures indicate that the tendency to drop out of school and go to work may be more marked among backward than among normal children, the larger percentage of retarded Michigan children is due at least in part to the higher age standard of the law relating to attendance of children at school.<sup>69</sup> The Michigan statute, with certain rather restricted exemptions,<sup>70</sup> required all children between 7 and 16 years of age to attend school until they had completed the eighth grade. Of the minors who had last attended school in Michigan—nearly three-fifths of the entire group<sup>71</sup>—those who could not finish the eighth grade at 14 or 15 had been required to stay on in school. The child who would be recorded as in a normal grade if he dropped out of school in one of the lower grades might be considerably below the normal when he finally succeeded in completing the eighth grade, or when he reached 16 without having advanced even as far as the eighth grade. It is

<sup>66</sup> Bonner, H. R.: *Statistics of City School Systems, 1917-18*, p. 35. U. S. Bureau of Education Bulletin, 1920, No. 24, Washington, 1920. The standard of retardation used by the Bureau of Education was slightly lower than that used in this study.

<sup>67</sup> Burdge, Howard G.: *Our Boys: A study of 245,000 16, 17, and 18 year old employed boys of the State of New York*, p. 89. New York Military Training Commission, Bureau of Vocational Training, Albany, 1921.

<sup>68</sup> The percentage of the Boston children who had completed higher grades than normal was 9.6 among all the children for whom continuation-school records were obtained. *The Working Children of Boston: A study of child labor under a modern system of legal regulation*, p. 134. U. S. Children's Bureau Publication No. 89, Washington, 1922.

<sup>69</sup> In Massachusetts a child of 14 could leave school to go to work if he had "such ability to read, write, and spell in the English language as is required for the completion of the fourth grade of the public schools in the city or town in which he resides." (Revised Laws 1902, ch. 44, sec. 1, as amended by acts of 1913, ch. 779, sec. 1, and by acts of 1915, ch. 81, sec. 1.) Since the period of that study the educational requirement has been raised to completion of the sixth grade. (Acts of 1921, ch. 463.)

<sup>70</sup> Sixth-grade graduates 14 years of age or over whose labor was necessary for support of parents were exempted. There were also the usual exemptions for physical and mental disability and, for children 12-14, an exemption allowing attendance at confirmation classes. (Howell's *Annotated Statutes* 1913, sec. 10110, as amended by acts of 1917, No. 179, and acts of 1919, No. 132.)

<sup>71</sup> See General Table IX.

therefore natural to find the highest proportion of retardation, 74 per cent, and the lowest proportion of minors advanced for their ages, 3.6 per cent, in the group who left school when they were 16.

### TECHNICAL TRAINING.

#### School courses in technical subjects.

*Courses pursued.*—The need of a good elementary education was more frequently emphasized by employers than the need for technical vocational education, since much of the technical knowledge necessary for specialized types of work could be secured by actual experience. Nevertheless, most employers believed that vocational training was of value for the more skilled work, especially that of machine operators, machinists, toolmakers, painters, draftsmen, designers, testers, chemists, and apprentices in all types of metal manufacturing. A few employers considered special vocational work valuable for outfit assemblers, bearing setters, final inspectors, and those employed at other types of assembling and inspection. Naturally, therefore, minors who had taken such courses had better opportunities than others to secure work of this sort. A considerably larger proportion of the machine operators, assemblers, and inspectors than of the laborers and helpers had at some time taken metal-trades courses.<sup>71a</sup>

Of the minors included in the study who had taken courses of that kind after leaving school about one out of every four was a machine operator, and nearly the same proportion were assemblers and inspectors, while only 1 out of 20 was a laborer and helper. The same tendency, but to a less degree, was found in the group taking metal-trades courses before leaving school.<sup>72</sup>

In spite of the value attached to technical training by most of the employers, the growing emphasis in the schools on vocational work, and the increasing opportunities for such training open to those who have left school, only 15 per cent of the boys and none of the girls had at any time received training that would especially fit them for employment in a metal-working factory. Even in these cases the training may not have been such as to fit the minor directly for the occupation in which he was engaged.

Table 16 shows that about one-fourth of the minors—nearly three-tenths of the boys and over one-tenth of the girls—had taken trade training courses of some kind either in day school or after they had left school. A smaller proportion had pursued these courses after leaving school than before, and a few—about 1 in 20—had taken vocational work during both periods. Of the 59 boys who took

<sup>71a</sup> This term is used throughout this report to cover all courses, including mechanical drawing and drafting, which would especially fit the minor for any kind of employment in a metal-working factory.

<sup>72</sup> See General Table XII.

metal-trades courses while in day school only 14 followed them by additional courses along the same line after leaving day school.<sup>73</sup>

A larger proportion of the minors who last attended school in the same city in which they were found working than of those who last attended school elsewhere had taken vocational training in day school, since in all the cities included in the survey the schools provided some kind of trade training courses. Only 1 of the 38 minors who came from rural schools had had vocational work.

TABLE 16.—*Time of taking trade training courses, by sex; minors in metal-manufacturing industries.*

Time of taking trade training courses.	Minors in metal-manufacturing industries.					
	Total.		Boys.		Girls.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total.....	1 807	100.0	734	100.0	73	100.0
Taking courses.....	221	27.4	213	29.0	8	11.0
In day school only.....	103	12.8	100	13.6	3	4.1
After leaving day school.....	82	10.2	77	10.5	5	6.8
Both.....	36	4.5	36	4.9	.....	.....
Taking no course.....	586	72.6	521	71.0	65	89.0

<sup>1</sup> Excludes 106 minors who did not report whether or not any courses were taken.

*Trade training and grade completed.*—The minors who had progressed furthest in school were the ones most likely to have had vocational training courses, chiefly because at least a sixth-grade education is usually a prerequisite to such courses. All those who had taken vocational courses in day school had gone beyond the fourth grade. Table 17 shows that all but 6 per cent of those who took vocational work while still in day school had gone beyond the sixth grade, 83 per cent had completed the eighth grade or some high-school work, and 60 per cent had received at least one or more years of high-school training.

*Types of courses.*—Metal-trades courses, as shown by Tables 18 and 19, were taken by a much larger proportion of the boys who secured some vocational training after they stopped going to school regularly than of those who took courses while they were still in day school (69 as compared with 43 per cent). The most popular types of these courses taken after leaving day school were mechanical drawing and drafting, tool or pattern making, and automobile repair or assembly. In the comparatively few cases where a minor had taken more than one course, however, preference in tabulating the material was given to the courses in the order in which they are

<sup>73</sup> See General Table XIII.

listed in the table; it was not practicable to tabulate more than one course for each minor. Therefore, if all who reported each course could have been counted, slightly larger numbers would have been shown in the courses toward the end of the list.

TABLE 17.—*Grade completed and whether or not trade training courses were taken in day school; minors in metal-manufacturing industries.*<sup>1</sup>

Grade completed.	Minors in metal-manufacturing industries— <sup>1</sup>					
	Total.		Who had taken courses in day school.		Who had taken no courses in day school.	
	Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.
Total .....	873	100.0	139	100.0	734	100.0
Sixth and lower grades.....	129	14.8	8	5.8	121	16.5
Seventh grade.....	138	15.8	13	9.4	125	17.0
Eighth grade.....	325	37.2	33	23.7	292	39.8
First year high school.....	104	11.9	31	22.3	73	9.9
Second and third year high school.....	115	13.2	38	27.3	77	10.5
Fourth year high school and higher education.....	46	5.3	14	10.1	32	4.4
Not reported.....	16	1.8	2	1.4	14	1.9

<sup>1</sup> Questionnaire group.

<sup>2</sup> Excludes 40 who did not report whether or not trade training courses were taken in day school.

TABLE 18.—*Type of trade training courses taken in school, by sex; minors in metal-manufacturing industries.*<sup>1</sup>

Type of trade training courses taken in day school.	Minors in metal-manufacturing industries who took training courses in day school. <sup>1</sup>				
	Total.		Boys.		Girls. <sup>2</sup>
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total .....	139	100.0	136	100.0	3
Metal trades.....	59	42.4	59	43.4	.....
Tool and pattern making.....	17	12.2	17	12.5	.....
Mechanical and electrical engineering.....	2	1.4	2	1.5	.....
Mechanical drawing and drafting.....	30	21.6	30	22.1	.....
Machine-shop practice.....	5	3.6	5	3.7	.....
Foundry.....	2	1.4	2	1.5	.....
Automobile repair and assembly.....	2	1.4	2	1.5	.....
Other.....	1	.7	1	.7	.....
Woodworking.....	22	15.8	22	16.2	.....
Commercial.....	16	11.5	14	10.3	2
All other.....	33	23.7	32	23.5	1
Not reported.....	9	6.5	9	6.6	.....

<sup>1</sup> Questionnaire group.

<sup>2</sup> Per cent distribution not shown where base is less than 100.

TABLE 19.—*Type of trade training courses taken after leaving day school, by sex; minors in metal-manufacturing industries who took trade training courses after leaving school.*<sup>1</sup>

Type of trade training courses taken after leaving day school.	Minors in metal-manufacturing industries who took trade training courses after leaving school. <sup>1</sup>				
	Total.		Boys.		Girls. <sup>2</sup>
	Number.	Per cent distribution.	Number.	Per cent distribution.	
Total.....	118	100.0	113	100.0	5
Metal trades.....	78	66.1	78	69.0	.....
Tool and pattern making.....	17	14.4	17	15.0	.....
Mechanical and electrical engineering.....	7	5.9	7	6.2	.....
Mechanical drawing and drafting.....	17	14.4	17	15.0	.....
Machine-shop practice.....	10	8.5	10	8.8	.....
Foundry.....	1	.8	1	.9	.....
Automobile repair and assembly.....	15	12.7	15	13.3	.....
Other metal trades.....	11	9.3	11	9.7	.....
Woodworking.....	1	.8	1	.9	.....
Commercial.....	13	11.0	10	8.8	3
All other.....	20	16.9	18	15.9	2
Not reported.....	6	5.1	6	5.3	.....

<sup>1</sup> Questionnaire group.<sup>2</sup> Per cent distribution not shown where base is less than 100.

Only one-fourth of the minors who had taken courses after leaving day school took them in the public schools.<sup>74</sup> A large number—nearly two-thirds as many as had taken courses in public schools—had taken them in correspondence schools, and the proportion of minors who had taken metal-trades courses was about the same. Factory courses had been taken by about the same number as had taken correspondence courses. The other courses reported had been taken at various types of private schools such as business colleges or automobile schools. The name of the city in which the work was taken was not obtained, and there is consequently no method of determining whether the work taken in private courses and by correspondence could have been secured at the time in the public schools; but since nearly one-third of the minors had last attended school in the city in which they were working, and over one-half had done so in some Michigan city, it would seem that there had been a demand for vocational training not satisfied by the public schools available to these minors.

*Length of courses.*—Three-tenths of the minors who reported the length of the courses taken since leaving day school had taken courses which lasted for a year or more, and over five-sixths had taken courses extending over a period of at least three months.<sup>75</sup> Nearly two-thirds of the minors who reported the length of courses taken while they were still in day school had attended such courses 12 months or more and only about one-fifth had attended less than 6 months.

*Relation to earnings.*—The value of the vocational training of these minors could not be shown fully by the amounts which they were earning at the time of this study not only because many of them had not been at work long enough to have put their training to full practical use but also because for such a determination it would be necessary to discover whether in time of depression the trained man

<sup>74</sup> See General Table XIV.<sup>75</sup> See General Table XV.

was retained in preference to the one not trained. Under these conditions even a slight difference in earnings is significant. Boys who had taken metal-trades courses were receiving a median wage of 66 cents an hour and \$31.96 a week, while those who had taken no trade training courses at all reported 65 cents an hour and \$30.26 a week. Fifty-five per cent of the boys who had taken courses in metal trades and only 44 per cent of those who had no trade training courses were earning \$30 a week or more.

### **Shop training and apprenticeship.**

For many occupations employers did not require workers with any experience. In one establishment employees who had not worked in other plants were even preferred, because it was believed they could be trained more quickly to the routine of the particular factory. For work requiring a small amount of experience, the general practice was to take unskilled workers already in the factory and train them. For work requiring much skill and training, such as that of welders, machine operators, and machinists, men who had had experience in other factories were preferred.

The general lack of any definite method of learning the occupation in the factory is shown by the fact that 44 per cent of the workers failed to report how the training for the jobs in which they were working had been secured. Nearly all of those who gave any reply had "picked it up" or had been shown by the foreman, 6 per cent had worked as helpers, 6 per cent as apprentices, and 4 per cent stated they received their training through school courses.

*Learning period.*—It was equally difficult to obtain complete information concerning the duration of the training for the work which the minor employees were doing at the time of the survey. Forty-two per cent made no reply to this query. Naturally those who had no definite idea of how they had learned their work could make no reply as to the time required; but since it is reasonable to suppose that some (particularly the apprentices) who did not reply considered that they had not yet "learned" their work, the proportion shown by Table 20 as having spent any considerable time in learning may be an understatement. Only about 1 in 6 of the entire number reporting on this point had spent as much as six months in learning. Nevertheless the large proportion who had spent very short periods is corroborated by the testimony of employment managers as to the time necessary for workers to become proficient in the various types of occupation. It was the general opinion that less than one day was required for truckers, messengers, errand boys, and most of the laborers. The time necessary for learning the simpler types of assembling, inspection, and machine operating was estimated at between a week and a month. On the other hand, a year or more was needed for many of the skilled occupations.<sup>76</sup>

<sup>76</sup> See data under heading "Learning period" in Descriptive Analysis of Common Occupations of Minors, p. 63 et seq.

Time spent in learning present occupation.

Occupation.	Less than 1 day.		1 day, less than 1 week.		1 week, less than 1 month.		1 month, less than 3.		3 months, less than 6.		6 months, less than 1 year.		1 year, less than 2.		2 years and over.		Not reported.	
	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>	Num-ber.	Per-cent. <sup>2</sup>
<b>Total.</b>	913	34	118	12.9	193	21.1	79	8.7	21	2.3	31	3.4	19	2.1	32	3.6	386	42.3
Apprentices.....	42	1	1	2.4	2	4.8	1	2.4	1	2.4	1	2.4	1	2.4	1	2.4	34	28.3
Assemblers.....	106	5	20	18.9	22	20.8	19	17.9	1	.9	3	2.8	3	2.8	3	2.8	30	28.3
Inspectors.....	128	4	13	10.2	22	17.2	16	12.5	5	3.9	4	3.1	4	3.1	4	3.1	56	43.8
Laborers and helpers.....	123	3	30	24.4	13	10.6	4	3.3	...	...	2	1.6	...	...	...	...	71	57.7
Machine operators.....	197	7	20	10.2	49	24.9	13	6.6	8	4.1	9	4.6	7	3.6	9	4.6	75	38.1
Drills.....	33	3	2	6.1	11	33.3	3	9.1	...	...	1	3.0	...	...	...	...	9	27.3
Grinders.....	40	...	3	7.5	11	27.5	2	5.0	3	7.5	2	5.0	...	...	...	...	18	45.0
Lathes.....	28	1	3	10.7	4	14.3	3	10.7	1	3.6	2	7.1	...	...	...	...	6	21.4
Milling machines.....	37	...	3	8.1	12	32.4	1	2.7	1	2.7	1	2.7	...	...	...	...	16	43.2
Other machines.....	59	3	9	15.3	16	27.1	4	6.8	2	3.4	3	5.1	2	3.4	1	1.7	26	43.8
Stock and tool-drib workers.....	101	4	16	15.8	16	15.8	7	6.9	2	2.0	2	2.0	1	1.0	1	1.0	10	9.9
All others.....	216	10	18	8.3	69	31.9	19	8.8	4	1.9	10	4.6	3	1.4	15	6.9	68	31.5

<sup>2</sup> Not shown where base is less than 100.<sup>1</sup> Questionnaire group.

*Apprenticeship.*—The basic reason for the breakdown of the apprenticeship system under modern factory conditions—a rapidly increasing specialization of labor which has reduced the demand for the all-round skilled workman—has been operative in the metal industries. The Cleveland Survey<sup>77</sup> points out clearly the chief difficulties found in practical attempts to revive this type of training in, for example, the machinist's trade. The minute subdivision of processes made possible by the perfection of machine tools has had a deterrent effect upon both employer and employee—the employer finds his attempt to train apprentices a disadvantage to himself because he has no guaranty of keeping them after he has trained them, and the apprentice sees the worker who has specialized in one machine process earning much more than he during his first years of industrial life, and nearly as much even after his years of apprenticeship are over. No attempt at state-wide formulation of standards of training, service, and compensation, such as that which has brought about a decided development of the apprenticeship system in Wisconsin,<sup>78</sup> has been made in Michigan, though in a few industrial plants standards have been carefully worked out. Only 9 of the 20 employers interviewed reported any organized system of training apprentices for any trades.

The classification "apprentice" as used in this report included not only those minors at work under apprenticeship agreements, but also those who were working directly under skilled journeymen with a prospect of promotion to a journeyman's position after sufficient experience. Even when the significance of the term was thus broadened it was found that only 7 per cent of the minors included in the survey could be classified as apprentices. Their median hourly wage was 51 cents—lower than for boys in any other of the main occupation groups,<sup>79</sup> but high when compared with the wages usually provided for in apprenticeship agreements<sup>80</sup> in these and similar industries. This fact may be due to the inclusion, already mentioned, of helpers; but it may also be due in part to the scarcity of labor and the unusually high level of wages at the time of the study.

When the entire working history of the minors included in the survey was considered, it was found that 12 per cent of those who replied to this query had served an apprenticeship at some trade and

---

<sup>77</sup> Lutz, R. R.: *The Metal Trades* [Cleveland Educational Survey], p. 21 et seq. The survey committee of the Cleveland Foundation, Cleveland, 1916.

<sup>78</sup> Douglas, Paul H., *American Apprenticeship and Industrial Education*. Studies in History, Economics, and Public Law, Whole Number 216, pp. 73–80. Edited by the faculty of political science of Columbia University. New York, 1921. See also *The Apprenticeship Law with Explanations*, issued December 1, 1921, by the Industrial Commission of Wisconsin.

<sup>79</sup> See Table 7.

<sup>80</sup> See apprenticeship agreement described on p. 39. See also Lutz, R. R.: *The Metal Trades* [Cleveland Educational Survey], p. 23, and *Apprenticeship in Wisconsin*, Third Report, Industrial Commission of Wisconsin. Madison, 1919.



8 per cent of the whole number reporting at some one of the metal trades. The diversity of trades in which the minors had received this type of training is shown in Table 21. The largest number found in any single occupation group—18, or nearly one-fifth of those reporting apprenticeship—had been tool or die maker's apprentices.

TABLE 21.—*Trade of apprenticeship; minors in metal-manufacturing industries.<sup>1</sup>*

Trade of apprenticeship.	Minors in metal-manufacturing industries. <sup>1</sup>		Trade of apprenticeship.	Minors in metal-manufacturing industries. <sup>1</sup>	
	Number.	Per cent distribution.		Number.	Per cent distribution.
Total.....	2 812	100.0	Apprenticed—Continued.		
Apprenticed.....	95	11.7	Metal trades—Continued.		
Metal trades.....	66	8.1	Automobile mechanic.	9	1.1
Tool and die maker...	18	2.2	Other metal.....	27	3.3
Pattern maker.....	3	.4	Draftsman.....	1	.1
Sheet-metal worker...	1	.1	Trimmer.....	1	.1
Coppersmith.....	2	.2	Electrician.....	2	.2
Coremaker and mold-			Printer.....	3	.4
er.....	3	.4	Woodworker.....	3	.4
Blacksmith.....	3	.4	Other.....	19	2.3
			Not apprenticed.....	717	88.3

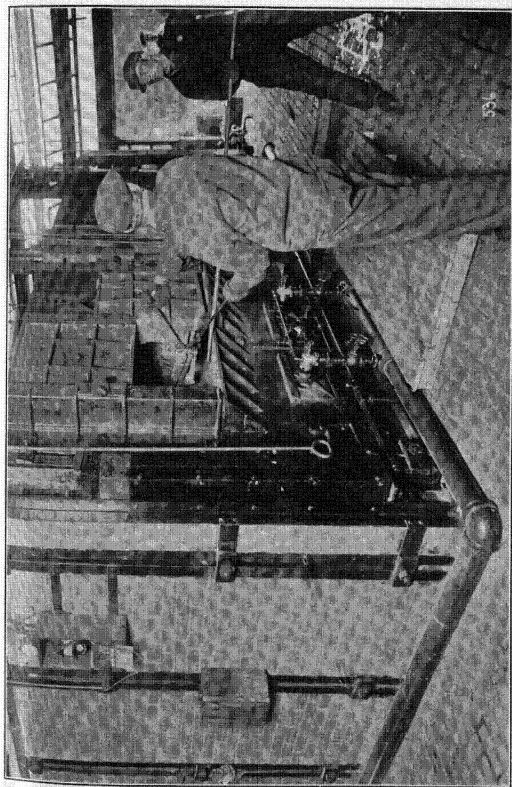
<sup>1</sup> Questionnaire group.

<sup>2</sup> Excludes 101 who did not report.

The most complete and extensive apprenticeship system found was in one of the large automobile factories which maintained an apprenticeship school to train toolmakers, machinists, tool and jig designers, and automobile mechanics. This school, which had been in operation two years, had an enrollment of 145 apprentices, many of whom had come from outside the State. A schoolroom, a school machine shop, and four full-time instructors, were provided, in addition to regular factory work. An applicant served two months before entering into the regular apprenticeship agreement, by which he (and his guardian for him) promised to serve the employer faithfully and pursue such classroom studies as the company might require. On the other hand, the employer agreed to give the apprentice adequate training in his trade and to give him a certificate upon the successful completion of his work. The company could discharge the apprentice for inability to work, disobedience, or improper conduct, and could "rearrange his working times if the state of business should demand it." The agreement also specified the wage to be paid. Four types of apprentices were accepted: (1) Junior apprentices, eighth-grade, but not high-school, graduates 16 to 20 years of age, who might be admitted to a three-year course. Beginning at 22½ cents an hour, they were given increases of 4½ cents, 3 cents, 3 cents, 3 cents, and 4 cents, respectively, every six months. (2) Senior apprentices, high-school graduates of any age, who might enter a 2½-year course. Beginning at 32½ cents an hour they received increases of 2½ cents

every 6 months. (3) Returned soldiers of any age, who might enter a 2-year course. In the case of disabled soldiers the factory cooperated with the Government in providing training. (4) High-school students taking industrial courses, who might arrange to spend alternate weeks in the factory and the school and receive credit in high school for their work in the factory as junior apprentices.

Other factories included in this study were training apprentices to some extent. One foundry and machine shop was just initiating an apprenticeship system, under which the apprentice agreed to study mathematics and mechanical drawing in a technical night school two nights a week for six months each of the two years during which he was serving his apprenticeship. The employment manager was not very sanguine of results, because, as he said, inexperienced boys could soon earn high wages as machine operators, and so had little incentive to become skilled machinists. Another firm which had formerly made a practice of training its boiler makers and sheet-metal workers through a 5-year apprenticeship had, at the time of the survey, only two such apprentices on the pay roll. In a few other factories some apprenticeship training was offered, though no formal agreement or course of instruction existed.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE VI.—HEAT TREATMENT. HEATING FURNACE.

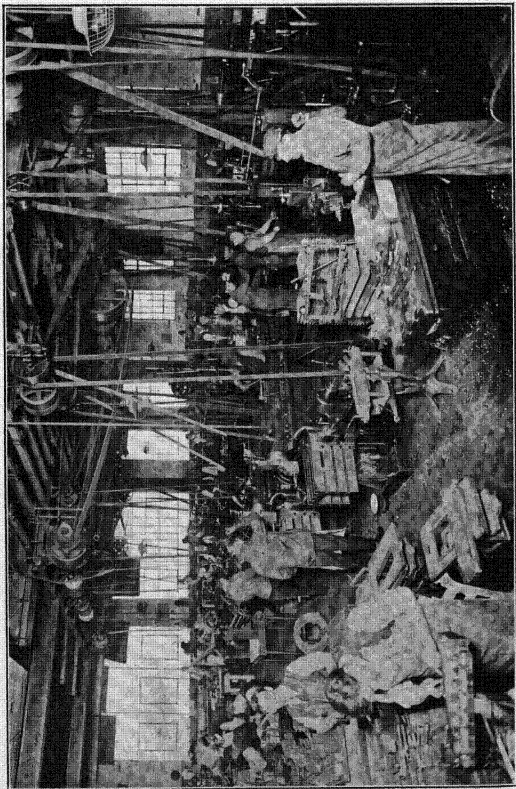


PLATE VII.—MACHINE SHOP. PLANNER IN FOREGROUND AT RIGHT, SHAPERS NEXT; BENCH WORK AT LEFT.

PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

## TECHNICAL TRAINING FOR WORKING MINORS IN THE SELECTED CITIES.

Opportunity for some type of school training for machine-shop, foundry, or other factory work was available in the public schools in all the cities visited, and in three—Detroit, Lansing, and Saginaw—the trade and industrial courses offered met standards for Federal aid under the Smith-Hughes Law.<sup>81</sup>

### DETROIT.

The city schools in Detroit were well equipped to furnish many kinds of vocational training. All-day, part-time, and evening courses in a large number of technical and vocational subjects were given in the Cass Technical High School.

#### Continuation schools.

Since training of minors who had already entered industry was of particular interest in connection with this report, special attention is here directed to the continuation and evening schools. At the time of this study all children below the age of 16 employed under work permits or excused from school to help at home, and all working children between 16 and 18 who had not completed the eighth grade, were required by the Michigan law to attend continuation school for four hours a week wherever such schools had been established. Establishment was optional with the local school authorities,<sup>82</sup> and Detroit was the only city making provision for this type of school.<sup>83</sup>

*Boys' continuation school.*—The total enrollment for the year 1919-20 in the boys' continuation school was about 1,000; 618 boys were in school at the time the study was made. Practically all of them (93 per cent) were between 15 and 16 years of age; 6 per cent were 16 years of age or over. In other words, practically all the children enrolled were required by law to attend. Table 22 shows that the largest single group, 40 per cent, had completed the seventh

---

<sup>81</sup> 39 U. S. Stat. L. 929.

<sup>82</sup> Acts of 1917, Act No. 280.

<sup>83</sup> The continuation school law, passed in 1919, which went into effect September 1, 1920, after the survey was completed, made the establishment of continuation schools compulsory in districts having a population of 5,000 or more and containing 50 or more children subject to the provisions of the act, permitted the establishment of such schools in smaller districts and required attendance when schools were established, increased the required hours of attendance from four to eight per week, and required attendance, with certain exemptions, of all working children under 18 who had not completed a four-year high-school course or its equivalent. (Acts of 1919, Act No. 421.) In 1921 the law was further amended to apply only to unmarried minors under 17, exempting those who had completed two years of a four-year high-school course. (Acts of 1921, First Extra Session, Act No. 15.)

grade; less than 1 per cent were from lower grades, and over one-third had had some high-school work.

The course of study which each boy was to pursue was decided on the basis of his education, his present job, and his desired vocation. He was advised in his choice by the director of the continuation school or his representative and sometimes also by his employer. About two-fifths of those reporting their courses were taking the following subjects: History, civics, mechanical drawing, and mathematics. Of these over one-fourth were taking in addition courses in electrical construction, typing, or printing. A total of 513 minors were enrolled in mathematics classes, 484 in mechanical drawing, 220 in machine shop, and 100 in typing. About seven-tenths of all the students were taking three courses or more.

TABLE 22.—*Grade completed; pupils in boys' continuation school, Detroit, Mich.*

Grade completed.	Pupils in boys' continuation school, Detroit, Mich.		Grade completed.	Pupils in boys' continuation school, Detroit, Mich.	
	Number.	Per cent distribution.		Number.	Per cent distribution.
Total.....	618	100.0	First year high school.....	185	29.9
Fifth grade.....	1	0.2	Second year high school.....	28	4.5
Sixth grade.....	2	.3	Third year high school.....	4	.6
Seventh grade.....	248	40.1	Fourth year high school.....	4	.6
Eighth grade.....	144	23.3	Not reported.....	2	.3

According to Table 23 more than half of the 541 boys in the Detroit continuation school for whom information regarding industry and occupation was secured were engaged in the occupations classified by the United States Census of Manufactures as clerical—i. e., messenger boys, errand boys, office boys, parcel boys, and others. But 99, nearly one-fifth, were in occupations classified under iron and steel and other metal manufacturing. With regard to the type of establishment in which the occupation, whether clerical, mechanical, or otherwise, was performed, it was found that about two-fifths of the boys (248) were at work in metal-manufacturing establishments and over half of these (133) in factories producing automobiles or automobile parts. Among the pupils who, according to their continuation-school records, had made any decision as to the vocation they wished to follow (only about a fourth of those in attendance) a larger proportion had expressed a desire for work of the type found in metal manufacturing than for any other kind. Nearly one-third had said that they wanted to do machine work or some other mechanical work, a fifth that they wished to be toolmakers, and most of the others had expressed a desire for drafting, electrical engineering, pattern making, printing, or commercial work.

TABLE 23.—*Wage per week by occupation and industry; pupils in boys' continuation school, Detroit, Mich.*

Occupation and industry.	Pupils in boys' continuation school, Detroit, Mich.							
	Total.	Wage per week.						
		Total reporting	\$3, less than \$10.	\$10, less than \$15.	\$15, less than \$20.	\$20, less than \$25.	\$25, less than \$30.	\$30 and over.
Total.....	618	504	23	249	161	47	18	6
Manufacturing and mechanical.....	163	125	4	32	59	20	5	5
Iron and steel and other metal.....	99	70	2	15	30	16	3	4
Apprentices.....	7	3	—	1	1	1	—	—
Inspectors.....	7	4	—	1	2	1	—	—
Machine operators.....	9	8	—	1	6	1	—	—
Other occupations.....	76	55	2	12	21	13	3	4
Helpers.....	29	22	1	4	8	5	2	2
Bench hands.....	7	4	—	—	3	1	—	—
Miscellaneous.....	40	29	1	8	10	7	1	2
Lumber and its manufacture.....	18	17	1	4	9	1	2	—
Printing and publishing.....	13	12	1	5	5	1	—	—
All other manufacturing.....	33	26	—	8	15	2	—	1
Transportation.....	24	22	1	4	13	2	2	—
Messenger boys (telegraph).....	17	15	—	4	10	1	—	—
Other.....	7	7	1	—	3	1	2	—
Trade.....	35	34	2	10	16	2	3	1
Clerks (retail stores).....	28	27	1	8	13	1	3	1
Other.....	7	7	1	2	3	1	—	—
Professional service.....	11	5	—	5	—	—	—	—
Blue-print boys.....	9	4	—	4	—	—	—	—
Apprentices (blue print).....	1	1	—	1	—	—	—	—
Tool designers.....	1	—	—	—	—	—	—	—
Domestic and personal service.....	6	6	—	2	2	—	2	—
Clerical.....	302	269	12	178	58	18	3	—
Messenger boys.....	90	82	3	60	16	2	1	—
Office boys.....	39	37	1	27	8	1	—	—
Errand, runner, and jumper boys.....	57	50	4	36	5	4	1	—
Wrapper and parcel boys.....	13	12	—	6	6	—	—	—
Delivery boys.....	12	12	1	8	3	—	—	—
Stock and tool boys.....	34	26	1	10	7	7	1	—
Shipping clerks.....	8	8	—	6	1	1	—	—
Other.....	49	42	2	25	12	3	—	—
Not reported.....	77	43	4	18	13	5	3	—

The weekly wages of the boys attending continuation school—a group composed almost exclusively of the younger workers—were much lower, even among those employed in the metal industries, than the earnings of the minors included in the survey.<sup>85</sup> As shown by Table 23, over half of those reporting wages per week were earning less than \$15. However, 14 per cent—nearly 1 in 7—were receiving \$20 or more. Of the 60 for whom hourly wages were reported 10 were receiving between 20 and 30 cents an hour, 25 between 30 and 40 cents, and 25, 40 cents or over. The highest wages were generally found in the manufacturing and mechanical occupation group;<sup>86</sup> the lowest were those earned by messengers, office boys, and other clerical workers. The better opportunities for young workers in the technical occupations<sup>86</sup> in metal and other

<sup>85</sup> See p. 12 et seq.

<sup>86</sup> In the classification here used, which is that used by the U. S. Census, "manufacturing and mechanical" occupations include only occupations peculiar to the industry—not messengers, stock and tool-room workers, and other occupations classified under "clerical."

manufacturing industries were thus evident even very early in the boys' working lives.

*Girls' continuation school.*—Work in the girls' continuation school, unlike that in the boys', showed no connection with the metal-manufacturing industries. No courses training for metal-factory work were offered. The number of girls enrolled at the time of the study was 601; the total enrollment for the school year 1919-20 was estimated at about 1,400. About seven-eighths of the girls were under 16 years of age.

### Night schools.

The night schools were open to all persons who were not required by law to attend day or continuation school, and an analysis of the records shows that men and women of all ages and nationalities took advantage of the opportunities offered. The total enrollment for the year 1919-20 was about 5,000. The data here presented were secured from the records of the first 500 pupils, taken alphabetically. Table 24 shows that of these pupils about one-tenth were women. Only a third were under 21 years of age, a slightly larger proportion of the men than of the women being in this age group. In contrast to the continuation-school pupils, none of the selected group were under 16 years of age. About one-third were foreign born; 15 per cent were from eastern or southeastern Europe, 12 per cent from northern and northwestern Europe, and 7 per cent from other countries. Of the whole group, 9 per cent were from Canada or Great Britain.<sup>87</sup>

Nearly three-fourths of the men and boys were engaged in the occupations classified as "manufacturing and mechanical," and by far the largest group, constituting 59 per cent of all the male pupils, were at work in metal manufacturing. The proportion of minor pupils who were in this industry was about the same as that of adults, but more minors proportionately were apprentices and fewer were machinists, inspectors, and grinders. None of the girls were employed in the metal trades—nearly all were nurses, stenographers, typists, or clerks.

---

<sup>87</sup> Figures on nativity were secured from a tabulation of 2,820 pupils, a group typical of the entire enrollment in evening high schools, made by the Board of Education of Detroit in 1921.



TABLE 24.—*Occupation and industry, by age and sex; selected group in night schools, Detroit, Mich.*

		Pupils in selected group in night schools, Detroit, Mich.											
Occupation and industry and sex.		Total.	Age.										
			Under 21 years.						21 years, under 25.	25 years, under 30.	30 years, under 40.	40 years, and over.	Not reported.
			Total.	16 years, under 17.	17 years, under 18.	18 years, under 19.	19 years, under 20.	20 years, under 21.					
Male.....		449	146	8	26	37	39	36	130	95	65	8	5
Manufacturing and mechanical.....		332	103	5	13	33	31	21	91	76	53	7	2
Iron and steel and other metal.....		265	87	5	10	29	26	17	74	54	41	7	2
Apprentices.....		18	14		3	5	3	3	3	1			
Grinders and polishers.....		11	1	1					2	4	4		
Grinders.....		10							2	4	4		
Polishers.....		1	1	1									
Machinists, millwrights, tool-makers.....		85	25		2	8	9	6	21	23	10	4	2
Machinists.....		38	9		1	2	4	2	11	12	5		1
Tool and die makers.....		25	9			5	2	2	6	6		3	1
Other <sup>1</sup> .....		22	7		1	1	3	2	4	5	5	1	
Mechanics.....		10	4			2	1	1	3	1	1	1	
Tinsmiths and copersmiths.....		12	6		1	2	2	1		4	2		
Other occupations.....		129	37	4	4	12	11	6	45	21	24	2	
Machine operators and machine hands.....		49	16		2	3	8	3	16	8	9		
Inspectors.....		20	1					1	11	3	5		
Assemblers.....		21	7			6	1		6	5	1	2	
Other iron and steel.....		39	13	4	2	3	2	2	12	5	9		
Building trades.....		11	3		1	1		1	2	2	4		
Electricians.....		37	7			1	4	2	11	13	6		
Other manufacturing.....		19	6		2	2	1	1	4	7	2		
Transportation.....		22	9			2	2	5	8	3	1	1	
Telephone.....		17	8			2	2	4	6	2	1		
Other.....		5	1					1	2	1		1	
Professional service.....		27	6		2		1	3	15	2	2		2
Draftsmen and designers.....		17	4		1		1	2	9	2	1		1
Other.....		10	2		1			1	6		1		1
Clerical.....		50	25	3	10	2	5	5	10	10	5		1
Tool and stock.....		9	6		3	1	2		1	1	1		
Other.....		41	19	3	7	1	3	5	9	9	4		
Other industries <sup>2</sup> .....		16	2		1			1	5	4	4		1
Not reported.....		2	1					1	1				
Female.....		51	15		3	2	5	5	21	12	1		2
Professional service.....		26	8		1	1	2	4	11	7			
Nurses.....		23	7			1	2	4	10	6			
Other.....		3	1		1				1	1			
Clerical.....		21	6		2	1	2	1	9	3	1		2
Stenographers and typists.....		14	5		2	1	1	1	7	1	1		
Other.....		7	1				1		2	2			2
Other industries.....		3							1	2			
Not employed.....		1	1				1						

<sup>1</sup> Includes 3 pattern-makers.<sup>2</sup> Includes: Trade, 7; domestic and personal service, 5; public service, 2; agriculture, forestry, and animal husbandry, 2.

The general education of the night-school pupils, as is shown by Table 25, averaged somewhat higher than was found for the minors in the metal-trades survey. Seventy-three per cent of the former, as compared with 67 per cent of the latter, had completed the eighth or a higher grade; and 45 per cent, instead of 30 per cent, had had some high-school or college work. This is in accordance with the tendency, also found among the minors included in the factory survey, for those from the higher grades to seek further technical training.

The large majority of the men and boys were taking courses in some way related to metal trades.<sup>88</sup> The greatest number were enrolled in mathematics. Next in importance was the machine-shop course; then mechanical drawing, automobile, and electric courses. None of the women, on the other hand, were taking metal-trades courses.

TABLE 25.—*Previous education; selected group in night schools, Detroit, Mich.*

Previous education.	Pupils in selected group in night schools, Detroit, Mich.		Previous education.	Pupils in selected group in night schools, Detroit Mich.	
	Number.	Per cent distribution.		Number.	Per cent distribution.
Total.....	500	100.0	Eighth grade.....	139	27.8
Third and lower grades.....	9	1.8	1, 2, or 3 years in high school..	120	24.0
Fourth grade.....	12	2.4	Graduate of high school.....	78	15.6
Fifth grade.....	6	1.2	1, 2, or 3 years in college.....	20	4.0
Sixth grade.....	22	4.4	College graduate.....	6	1.2
Seventh grade.....	37	7.4	Not classified.....	12	2.4
			Not reported.....	39	7.8

#### OTHER CITIES.

In Lansing 110 boys were enrolled in the 4-year industrial course given by the high school. During the last 3 years of the course they worked alternate weeks in the school and factory. The night school offered work in mechanical drawing, tool design, architectural drawing, sheet-metal drafting, shop mathematics, shop layout of castings and forgings, and electrical work; 310 pupils, most of them over 21 years of age, were enrolled in night industrial courses during the year.

The Saginaw High School (East Side) had a regular 4-year vocational course in which 104 pupils were enrolled. The work included mechanical drawing, shop mathematics, forging, machine-shop, and automobile courses. Cooperative part-time courses were furnished for a few pupils who were obliged to work or for some reason could not attend school full time. Two of the pupils were men working on night shifts who took machine-shop courses. In the night

<sup>88</sup> See General Table XVI.

school during the year there had been 30 enrolled in the class for mechanical drawing, from 14 to 18 in the pattern-making class, and from 14 to 16 in each of the three machine-shop classes. Most of the night-school pupils were above school age.

The Arthur Hill Trade School in Saginaw (West Side) offered four different kinds of classes: (1) The all-day industrial school, in which there were 67 boys and 57 girls. Enrollment in the courses dealing with metal work was as follows: Electrical, 23; machinist, 22; pattern making, 14; mechanical drawing, 12; motor mechanics, 13. (2) The part-time industrial school, in which were enrolled 39 boys, all over 16 years of age, who worked alternate weeks in school and factory. The school officials secured the factory jobs for the pupils and fixed the wage to be received at 25 cents an hour. Besides work at their trade these boys took mathematics, mechanical drawing, English, and citizenship. (3) The part-time continuation school, where pupils might take any kind of shopwork, and in which 3 women and 22 men, most of them men over middle age who were taking some special kind of shopwork, were enrolled. (4) The evening industrial school, with an enrollment for the year of 210 (170 men and 40 women); the numbers enrolled in metal-trade courses were as follows: Motor mechanics, 53; machine shop, 44; drafting, 26; electrical, 23; shop mathematics, 24. Pupils in trade extension courses under the Smith-Hughes law were required to be actually employed in the line of work for which the course was given. The ages of pupils in the evening school ranged from 18 to 60, averaging about 35.

The industrial courses offered in Bay City were woodworking and mechanical drawing. The night school for the year 1919-20 had a total enrollment of about 300, two-thirds of them men from 17 to 30 years of age. The three classes in mechanical drawing had an enrollment of about 16 each.

The Flint public schools offered courses in mechanical drawing, pattern making, and electrical wiring. The Industrial Fellowship League, made up of all the factory workers of the city, offered extensive industrial training in its evening and afternoon classes, including automotive courses, drawing and design, shop mathematics, electrical courses, metallurgical courses, and machine-shop courses.

# INDUSTRIAL ACCIDENTS TO MINORS, SAFETY CONDITIONS, AND ACCIDENT PREVENTION.

## LEGAL PROTECTIVE MEASURES.

The analysis of occupations in which minors are engaged, made in connection with this study,<sup>89</sup> though it did not attempt to cover the accident hazards in every detail, showed clearly that many of these young persons were at work in dangerous surroundings. Moreover, the tendency of modern legislation to protect the immature worker from the hazards to which adults are exposed indicates that in any survey of a highly complicated machine industry such as that of metal manufacturing, it is necessary to consider accident risks and methods of accident prevention.

Under the workmen's compensation law of Michigan<sup>90</sup> in effect at the time of this study, compensation was provided for industrial accidents resulting in injury or death. Election to come under the act was optional with the employer, but if he did not do so he was left, in case of injury to an employee, to face a suit for damages with the usual common-law defenses<sup>91</sup> removed. If the employer's negligence could be proved, the assessment of damages by the jury would follow as a matter of course. All the employers included in this survey had accepted the act. Reports of all accidents were required to be sent to the industrial accident board, which administers the law.

The State child labor law prohibited the employment of boys under 18 and girls under 21 in "any hazardous employment," specifying "cleaning machinery in motion" and giving to the State department of labor authority to determine what other employment should be regarded as hazardous.<sup>92</sup> Although it has not been the practice of the department to make general rulings as to dangerous occupations, decisions have been made as to whether minors might be employed on specific machines in individual plants. Since minors illegally employed were not covered by the compensation act, recovery, in case of injury to such a minor, was at common law, except that the employer, just as when he refused to come under the act, was denied the defenses of assumption of risk by employee, fellow servant, and contributory negligence. Moreover, the fact of employment con-

---

<sup>89</sup> See p. 63 et seq.

<sup>90</sup> Michigan, Acts of 1912, First Extra Session, No. 10, as amended by acts of 1913, Nos. 50, 156, acts of 1915, Nos. 104, 153, 170, 171, and acts of 1917, Nos. 41, 206, 235, 249.

<sup>91</sup> Assumption of risk, fellow servant, and contributory negligence.

<sup>92</sup> Michigan, Howell's Annotated Statutes 1913, sec. 4019, as amended by Acts of 1915, No. 255.

trary to the statute constituted in itself actionable negligence. This increased the risk of having to pay heavy damages, and served to a certain extent as a check upon employment of minors of the prohibited ages at any kind of work likely to result in accident, whether or not specifically named as "hazardous" by the law or by the department of labor.

### STATE RECORDS OF INDUSTRIAL ACCIDENTS TO MINORS.

Statistics that would make it possible to measure accurately the risk to which minors are exposed in the different industries are not available for the State as a whole. For a scientific analysis of the accident situation as it involves minors, it is necessary to know the accident severity and frequency rates<sup>93</sup> by age and by occupation, and the occupation classification used must take into account the industry and the production department, as well as the specific occupation. Though information of this kind might have been secured from individual factories, it was not possible in connection with the present study to attempt a collection and analysis of these data. The only practicable sources of material were the records of the Michigan Industrial Accident Board, which give the age of the injured employee and use the standard classifications<sup>94</sup> in describing industry, cause of accident, location of injury, and extent of disability. The records selected for study include all accidents to workers under 21 years of age occurring in the State in the year 1918<sup>95</sup> which arose out of or in the course of employment and which resulted in death, dismemberment, or in incapacity for work lasting at least 15 days.<sup>96</sup> This study was not confined to metal-working industries, but, for purposes of comparison, included all industrial accidents. The tables are arranged to show separately as far as possible accidents occurring to minors engaged in the type of occupations included in the factory survey.

<sup>93</sup> For the standard method of computing these rates, see Chaney, Lucian W.: *Accidents and Accident Prevention in Machine Building*, ch. I. U. S. Bureau of Labor Statistics Bulletin 256 (Revision of Bulletin 216). Washington, 1920.

<sup>94</sup> These classifications are found in the following report: *Standardization of Industrial Accident Statistics: Reports of the Committee on Statistics and Compensation Insurance Cost of The International Association of Industrial Boards and Commissions, 1915-1919*. U. S. Bureau of Labor Statistics Bulletin 276. Washington, 1920.

<sup>95</sup> This year was chosen in order to allow a sufficient lapse of time after the date on which the accident occurred to make possible a record of the extent of disability.

<sup>96</sup> Accidents causing disability lasting less than 15 days were not compensable. Since 1918 the law has been amended to compensate accidents resulting in disability of more than one week.

TABLE 26.—*Duration of absence from work by industry; minors injured in industrial accidents in Michigan, 1918.*

Industry.	Minors injured in industrial accidents in Michigan, 1918.								
	Total.	Fatal cases.	Cases involving loss of member.	Duration of absence from work.					
				15 days, less than 3 weeks.	3 weeks, less than 4.	4 weeks, less than 6.	6 weeks, less than 13.	13 weeks, less than 52.	Duration over 15 days, exact time not reported.
Total.....	1,905	28	238	330	359	472	379	69	30
Agriculture.....	5						4	1	
Mining.....	221	8	5	61	37	54	41	14	1
Quarrying.....	5	1		1	1	1		1	
Manufacturing.....	1,462	13	223	229	291	364	281	39	23
Building and hand trades.	33	1	2	5	10	5	9	1	
Chemicals and allied products.	35	1	5	3	7	6	11	1	1
Food and kindred products.	73	3	5	13	11	17	18	3	3
Metals.....	765	5	130	119	150	205	129	18	9
Automobile factories.	129		17	19	24	37	25	4	3
Automobile parts.....	188	2	31	28	28	57	33	5	4
Foundries.....	309	1	62	44	70	77	46	7	2
Ship and boat building.	32	2	5	5	1	10	8	1	
Other.....	107		15	23	27	24	17	1	
Lumber and its manufacture.	286	1	34	47	62	70	56	11	5
Paper and paper products.	64	1	13	12	13	13	10	1	1
Textiles.....	45		6	9	13	9	7	1	
Other.....	162	1	28	21	25	39	41	3	4
Transportation.....	90	4	4	16	10	29	16	8	3
Trade.....	104	1	6	19	20	20	30	5	3
Service.....	16	1		3		4	7	1	
Not reported.....	1			1					

The records showed that 1,905 compensable accidents to minors had occurred during the selected period. The large majority (77 per cent) of these accidents occurred in the manufacturing industries, and in this group, according to Table 26, metal-working factories were responsible for over half. An analysis according to occupation rather than industry, found in Table 27, shows that 863 accidents (45 per cent of the total) were accidents to machine operators; of these, 56 per cent were accidents to operators of metal-working machines. When the cause of accident is considered, machinery is shown, in Table 28, to have been responsible for 984 accidents, or 52 per cent of the total number; and nearly all of these—45 per cent of the entire number of accidents—were caused by power-working machinery. In this power-machine group, metal-working machines caused 56 per cent of the accidents, and punch presses headed the list of specified types of machines, being responsible for a far larger number of accidents than any other machine.

TABLE 27.—*Occupation when injured, by age at time of accident; minors injured in industrial accidents in Michigan, 1918.*

Occupation when injured.	Minors injured in industrial accidents in Michigan, 1918.							
	Total.	Age at time of accident.						
		Under 16.	16 years, under 17.	17 years, under 18.	18 years, under 19.	19 years, under 20.	20 years, under 21.	Not reported.
Total.....	1,905	45	193	291	587	416	364	9
Machine operators.....	863	19	97	137	292	159	153	6
Metal working.....	481	3	32	74	162	98	107	5
Woodworking.....	192	9	40	34	62	25	21	1
Paper working.....	71	2	6	6	31	14	12	.....
Leather working.....	19	.....	3	3	8	2	3	.....
Textile and laundry.....	35	1	9	8	7	6	4	.....
Food products.....	27	2	4	3	7	6	5	.....
Stone, clay, and glass.....	1	.....	.....	1	.....	.....	.....	.....
Not reported.....	37	2	3	8	15	8	1	.....
Factory workers, not machine operators.....	363	12	40	56	107	77	70	1
Machinist, mechanic, repair man.....	60	.....	2	6	19	15	18	.....
Transportation.....	185	3	15	27	54	54	30	2
Miners.....	163	.....	13	21	40	45	44	.....
Lumbermen.....	57	1	2	8	21	13	12	.....
Hand and building trades.....	54	.....	4	10	12	13	15	.....
All other.....	160	10	20	26	42	40	22	.....

TABLE 28.—*Age at time of accident, by cause of accident; minors injured in industrial accidents in Michigan, 1918.*

Cause of accident.	Minors injured in industrial accidents in Michigan, 1918.							
	Total.	Age at time of accident.						
		Under 16.	16 years, under 17.	17 years, under 18.	18 years, under 19.	19 years, under 20.	20 years, under 21.	Not reported.
Total.....	1,905	45	193	291	587	416	364	9
Animals.....	10	.....	.....	1	4	1	3	1
Hand tools.....	89	3	6	13	28	21	18	.....
Objects being handled.....	257	4	20	36	83	64	49	1
Falling objects.....	96	1	8	15	25	20	27	.....
Stepping on or striking against objects.....	32	.....	5	6	6	9	6	.....
Fall of persons.....	103	.....	14	16	26	27	20	.....
Explosives, electricity, hot substances.....	89	1	5	12	20	24	27	.....
Vehicles.....	224	6	26	30	61	66	34	1
Boilers and steam-pressure apparatus.....	4	.....	.....	1	.....	1	2	.....
Machinery.....	984	30	107	158	334	178	171	6
Prime movers.....	20	.....	1	3	4	9	3	.....
Hoisting apparatus, and conveyors.....	60	4	9	5	21	13	8	.....
Power-transmission apparatus.....	54	3	7	8	21	5	10	.....
Power-working machines.....	850	23	90	142	288	151	150	6
Metal working.....	480	4	31	74	162	101	103	5
Abrasive.....	50	.....	2	11	13	11	13	.....
Drills.....	46	2	1	4	17	10	12	.....
Lathes.....	29	.....	2	2	10	6	9	.....
Milling machines.....	39	.....	3	10	14	4	8	.....
Punch presses.....	85	.....	6	11	32	14	19	3
Presses (n. o. s.).....	85	1	7	10	26	27	14	.....
Other.....	146	1	10	26	50	29	28	2
Wood working.....	202	12	37	41	64	24	23	1
Paper working.....	66	2	6	7	28	10	13	.....
Leather working.....	19	.....	2	2	8	3	4	.....
Textile and laundry working.....	29	1	7	7	7	5	2	.....
Food products.....	20	2	4	3	5	3	3	.....
Stone, clay, and glass working.....	1	.....	.....	1	.....	.....	.....	.....
Power working (n. o. s.).....	33	2	3	7	14	5	2	.....
Miscellaneous specified causes.....	8	.....	1	2	.....	2	3	.....
Not reported.....	9	.....	1	1	.....	3	4	.....

A larger number of accidents occurred to minors who were between the ages of 18 and 19 than to those in any other year of age, the number of accidents to the 19-year-old group decreasing 29 per cent, and the number to the 20-year-old group decreasing 38 per cent, from the number which occurred to the 18-year-old group. While figures are not available for the total numbers employed at each of these ages, these findings, in view of the great probability that the number employed increases with each year of age,<sup>97</sup> indicate a smaller accident rate for the older minors.

Of the total accidents 28 resulted fatally,<sup>98</sup> leaving 1,877 nonfatal cases; of these, 238 involved dismemberment, and the balance (1,639) incapacity for work for from 15 days to 1 year.

### SAFETY CONDITIONS AND ACCIDENT PREVENTION IN THE FACTORIES SURVEYED.

Whether or not the accident risk to minors in metal-manufacturing industries is greater than for adults, the mere number of serious accidents shown for a single year gives evidence of the need for considering accident hazard and prevention in any appraisal of conditions affecting minors in these industries.

Since 1909, when a State department of labor was created in Michigan<sup>99</sup> with authority to collect and systematize information as to the number and character of industrial accidents, public and private organizations with varying points of views have joined forces in working for accident prevention throughout the State. But, though Federal and State labor departments, vocational-education bureaus, industrial-accident boards and commissions, insurance companies and workmen's compensation bureaus have acted as spurs to the safety movement, it is the plant-safety department as an integral part of factory organization which must chiefly be depended upon to reduce industrial-accident hazards.

### Factory safety organization.

According to the United States Bureau of Labor Statistics,<sup>1</sup> a good factory safety organization should measure up to the following standards: "(1) Safeguarding by signs, warnings, and mechanical contrivances; (2) adequate safety inspection; (3) safety committees of superintendents, foreman, and workmen; (4) emergency and hospital care of the injured; (5) a compensation or relief system."<sup>2</sup>

<sup>97</sup> Though enlistments may have reduced somewhat the number of minors at work at the ages of 19 and 20, this would probably not account for the decrease in number of accidents.

<sup>98</sup> See Table 26.

<sup>99</sup> Michigan, Acts of 1909, Act No. 285.

<sup>1</sup> Chaney, Lucian W.: *Accidents and Accident Prevention in Machine Building*, p. 41. U. S. Bureau of Labor Statistics Bulletin No. 256.

<sup>2</sup> The State compensation law is discussed on p. 48.



In addition to these five points might be mentioned another, namely, the compilation and analysis of plant-accident figures.

*Safeguarding by signs, warnings, and mechanical contrivances.*—Six of the 19 factories from which information on this point was secured were doing excellent work in safeguarding by signs, warnings, and mechanical devices. Four of these were automobile factories, one made automobile parts, and the sixth was a large machine shop. Each employed a full-time safety engineer whose duty it was to study accident causes and to work out methods of prevention, and who kept careful watch of the condition of machinery and machine guards, of passageways and piled material, and of the way in which employees carried out the rules of the safety department. These safety engineers attempted to interest employees in accident prevention and to emphasize the need for considering safety before profit in production.

In one of these plants the safety department was 7 years old. The chief, a machinist with 11 years' experience as a safety engineer, had 4 assistants, all practical men. In addition, 8 sheet-metal men and 3 pipe fitters were employed to make safeguards at his direction. Frequently changed safety bulletins and careful instruction of men on new jobs were among the methods used by this firm to interest employees in accident prevention. One man from the safety department worked full time in the punch-press department instructing workers, as that machine is considered difficult to make accident-proof.

In discussing machine accidents, one safety man said: "Although safe machines have been worked for incessantly, machine accidents are still too numerous. It is possible to guard a machine so that it will be safe for the constantly careful operator, but it is hard to provide safety devices which can not be removed and which guard against the involuntary movement."

Among the effective plans which had been worked out to further an interest among employees in personal safety were the following: General rules for plant safety and safe machine operating posted throughout the factory; a box labeled "Safety Suggestions," with prizes for those which could be used; a bonus offered to the department having the lowest accident rate, at regular intervals; individual prizes for employees who had worked a certain length of time without accident; the discharge of men who disobeyed the safety rules; and encouragement of safety discussion among employees.

In one factory the safety man distributed to the machine operators cards showing the hazard incident to the operation of each machine and rules for safe operation. For instance, he would give a drill-press card to a drill-press operator, have him sign his name on half the card, tear off the name for the safety-department file and leave

the rules and the statement of hazards with the operator, who thus was made to feel responsible for safe operating. Careful instruction of men on new jobs and talks with individual operators seemed to be the most practical safeguarding methods.

In seven of the smaller factories a safety committee made up of men who had other work in the factory did accident-prevention work, keeping track of machinery in their various departments, making suggestions at committee meetings, and posting bulletins. In the six remaining factories surveyed, foremen or machinists were responsible for the safeguarding of employees.

*Safety inspection.*—In the six plants employing safety engineers the factory was constantly under inspection. In one establishment every part of the plant was inspected daily, and an inspector was employed by the company to check up on the safety department. He came once a month, spending three days in going over the entire plant. The safety engineer and his assistants encouraged reports from members of the shop safety committees concerning machines and transmission machinery which could be guarded more effectively, defective machinery, defective safeguards, dangerous placing of material, and disregard of safety rules. In the plants having only the committee form of safety organization, committee foremen or members of the committee reported unsafe practices or conditions to the committee for action. In the remaining establishments the foremen were responsible for inspection.

*Safety committees.*—Safety engineers of experience stated that safety committees made up of superintendents, foremen, and workmen were a potent force in prevention work, since each in his individual field is vitally interested in "getting safety results." In one large machine shop the safety engineer had organized (1) a general committee consisting of himself, the chief engineer, the superintendent of the boiler shop, and the assistant superintendent of the plant; (2) a shopmen's committee of six employees chosen for efficient workmanship; (3) a foremen's committee of six. These committees met monthly to discuss ways and means of doing away with dangerous conditions and practices. Three of the other factories had much the same plan of committee organization. Eight of the remaining 15 factories had committees made up of superintendents and foremen but no workmen, and 7 did not have safety committees.

*Emergency and hospital care.*—Considerable differences in the provision made for medical care of injured employees existed among the different plants. In a factory at one end of the scale the manager called upon "a fellow from one of the departments who was handy at bandaging" in case of slight injuries; and when a "juicy" one occurred, he himself took a "look at it," one of his ancestors having been a doctor. On the other hand, in three of the larger factories

one or more physicians were employed full time, and all but three plants had at least a room equipped for first-aid treatment. In all but six full-time trained nurses were in attendance. Since medical aid and hospital care were easily accessible to the factories studied, a well-equipped first-aid room and a trained nurse in the factory were sufficient to insure adequate care.

Plant physicians were of the opinion that sickness no less than accidents is an important item in calculating lost time, and that reducing the sickness rate is as necessary to efficiency as preventing accidents, though not as spectacular. In addition to their work of attending injuries, reducing absence from work on account of accidents to a minimum, and investigating possibilities of occupational disease, they made physical examinations of applicants, rejecting those who had certain infectious diseases; they kept a careful watch on general factory sanitation with a view to possible improvement; and they sometimes even went outside the factory to investigate conditions—for instance, those relating to water and food—which might give rise to epidemics or disease in the factory community.

*Plant-accident figures.*—None of the factories had compiled frequency or severity rates according to exposure to risk. In the factories having a safety engineer the safety-office files showed in tabular and graphic form the accidents per 100 employees; the accident cost per employee by departments; and the number of cases per month by cause of accident, nature of injury, location of injury, and number of hours lost. In addition, the safety engineer made an estimate of the cost of accidents per month, including compensation paid, medical service rendered, and time lost breaking in a new man or waiting for the injured employee, because the company was interested in these facts and because they tended to show that his safety department paid.

One such department made monthly reports with tables giving causes of accident, nature and location of injury, and number of lost-time accidents per 1,000 workers. The following figures from one of these tables show a decrease, indicating the efficiency of the department:

	Jan., 1917.	Apr., 1920.
Total employees.....	12,707	22,276
Total accidents.....	1,156	1,121
Lost-time accidents.....	99	92
Accidents per 1,000 employees.....	90.9	50.5
Lost-time accidents per 1,000 employees.....	7.8	4.1

One of the safety men reported that he had not been interested in detailed occupational rates because he aims "to reduce accidents to as near zero as they will go," and if even one accident occurs on a milling machine, for instance, he immediately works to prevent a repetition.

In the factories having no full-time safety engineer the records kept merely complied with the requirements of their insurance companies and of the industrial accident board, which did not necessitate compilation or analysis, but which included specific information in regard to each accident.

### State prevention work.

On an accurate analysis of the real cause of accident depends the creation of a safety zone which would allow minors to be useful industrially without submitting them to undue risk of injury. A classification of the cause of accident according to the standard list<sup>3</sup> shows, it is true, the immediate reason. But to know that 257 minors were injured by "objects being handled," or 54 by getting into "power-transmission apparatus," or 85 by tripping a punch press at the wrong time, is merely a beginning. Scientific preventive work demands the fixing of ultimate responsibility. Was carelessness the reason, or negligence, or was it the fault of a fellow employee, or lack of skill and coordination due to inexperience, or lack of proper initial instruction, or defective machinery? Or did it happen that some disturbance interrupted the rhythmic sequence of the motions of the operator, and that before he was able to recover his poise an accident occurred?

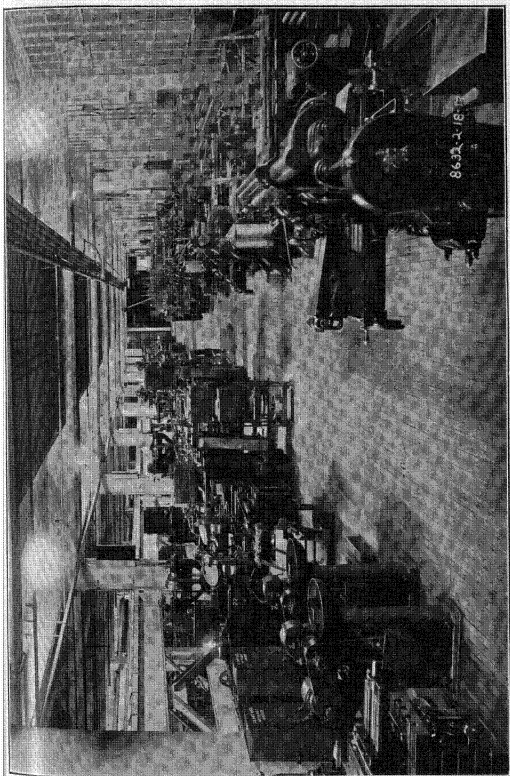
At the time of this study the Michigan State Department of Labor<sup>4</sup> collected and published annually statistics relating to hours of labor and number, age, and sex of employees, and did safety work by inspecting establishments for unsafe practices. Under the recent reorganization by which the department of labor and the industrial accident board are combined in the department of labor and industry,<sup>5</sup> it should be possible to make an analysis which would throw light on the problems suggested above. If the records now in hand could be supplemented by the material necessary to compile accident severity and frequency rates on the basis of age and according to a uniform classification of occupations, it would make possible a valuable interchange of accident-prevention experience. Such a study would also enable safety experts to compile a list of occupations involving a risk on the part of the young worker or a menace to his health.

Moreover, work for the prevention of accidents, however valuable, should be supplemented by efforts looking toward the elimination of minors, at least those in the younger age groups, from occupations admittedly hazardous.

<sup>3</sup> See p. 49.

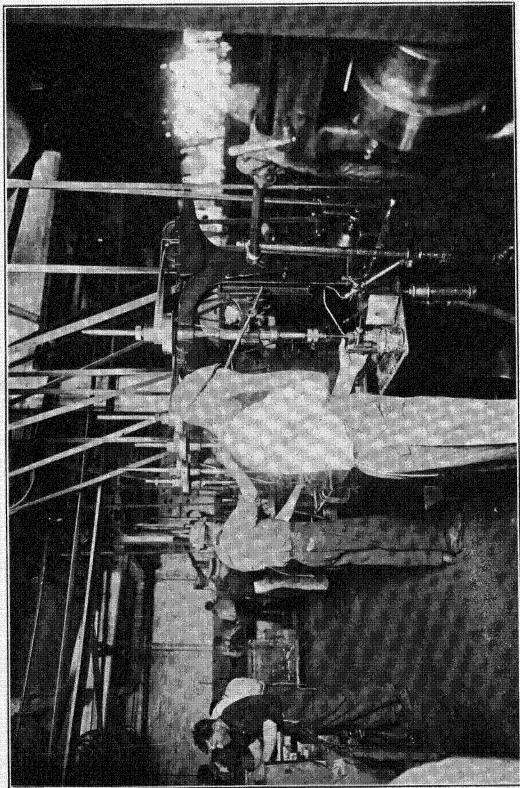
<sup>4</sup> See p. 52.

<sup>5</sup> Michigan, Acts of 1921, No. 43. This law, which became effective July 1, 1921, created the department of labor and industry and transferred to it the powers and duties of the organizations mentioned above and in addition those of the board of boiler rules and the industrial relations commission.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE VIII.—MACHINE SHOP. AT LEFT, ROUGH HAND GRINDING; AT RIGHT, MILLING MACHINES.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE IX.—SENSITIVE SPEED-DRILL PRESS.

## SUMMARY AND CONCLUSIONS.

In the representative metal-manufacturing factories of Michigan included in this survey 11 per cent of all the employees were young persons under 21 years of age. Of these minors 99 per cent were over 16 years of age and about two-thirds were between 19 and 21. Nearly half the young workers of the questionnaire group reporting nativity were either foreign born or of foreign parentage, but about a third of this group belonged to English-speaking nationalities easily assimilated to the native population.

Minors were found engaged in nearly all kinds of work done in the factory, but they were most numerous employed as machine operators, laborers, and helpers, inspectors, stock and tool-crib workers, and assemblers—occupations requiring relatively little training and skill. A few were doing skilled work such as that of machinist or toolmaker or had jobs in which the experience gained would fit them directly for higher-grade work.

The boys outnumbered the girls eight to one. Most of the girls were working as inspectors, trimmers, assemblers of small parts, sewing-machine operators, stock and tool-crib workers, and core makers, but a few were employed as drill or milling-machine operators. Wages were lower for girls than for boys, even in the same occupations, and opportunities for promotion were fewer.

Promotion is open to boys in most occupations in the metal-working industries. Even for many of the better jobs, technical training other than that obtained through factory experience, though desirable, is not essential. While the comparatively small number of higher-paid and more responsible jobs makes it impossible for all those having the requisite training to secure the better positions, the increase in opportunities caused by the constant expansion of the industry helps to offset this disadvantage.

Fifteen per cent of the minors for whom information as to hours of work was secured had worked over 54 hours a week, certainly a long working week for young persons. (Hours of labor of boys over 18 are not restricted by law in Michigan.) Two per cent had been employed for more hours than the conservative legal standards for other minors.<sup>6</sup> To secure adequate protection of all working boys and girls not only should the present legal standards be strictly enforced, but further legislative restrictions should be placed upon the hours of all minors over 16 years of age. A short working

---

<sup>6</sup> See pp. 11 and 12.

week was reported by a considerable number of minors, but this was due rather to shifting from job to job than to curtailment of production.

Earnings were high, even taking into consideration the fact that the study was made during a period of exceptionally high wages. The median weekly earnings were \$27, the median hourly earnings, 60 cents; nearly a fourth of the workers had earned \$35 or over a week. Some of these had worked unusually long hours to receive the high pay, but, on the other hand, a fourth had worked only from 42 to 48 hours. Boys working as painters, trimmers, body assemblers, motor, final, and outfit assemblers, or sheet-metal workers received the highest median hourly earnings, while apprentices, oilers, straighteners, stock and tool-crib workers, and laborers and helpers received the lowest. Where the age of entering industry had been 16 years or over there was a constant increase of earning power with experience.

The study of the work histories of the minors employed showed that there had been a large amount of shifting from job to job, particularly in the first year or two of industrial life. The existence of much shifting at the time of the survey is indicated by the fact that a large number of minors failed to reply to the questionnaire because they had left their jobs in the short period while the records were being copied and the questionnaires prepared for distribution. In the nine factories from which turnover<sup>7</sup> for the whole plant could be secured it varied from 110 per cent in an automobile factory to 420 per cent in a large foundry. Employers might obviate some of this shifting by educational methods and by working out definite schemes of promotion.

Two-thirds of the minors had completed the eighth or a higher grade, and 30 per cent had taken high-school courses. While the proportion of minors with at least an eighth-grade education compares favorably with the proportion for the country as a whole, a comparison of grade completed and age at leaving school shows a surprisingly large amount of retardation—52 per cent. This may be accounted for at least in part by the comparatively high age standard of the Michigan compulsory education law, which kept many children in school until they were 15 or 16 years of age. Fifteen per cent of the boys had taken vocational or prevocational courses of value in the metal-working industries. Most employers gave preference to applicants with at least an eighth-grade education, and for occupations requiring some knowledge of mechanics or drafting they preferred boys with technical training. Technical or trade training of some kind was available in the public schools of all the cities visited. Few employers used the apprenticeship method to

<sup>7</sup> Turnover was found by dividing the total number of separations for the year by the average number of equivalent full-time workers for the year and multiplying the quotient by 100.



train beginners for the skilled trades. Most of the occupations in which minors were working were relatively unskilled jobs for which a few weeks' experience in the factory afforded all the training actually needed.

Better general and technical education appears to result in slightly higher wages even among workers under 21. This, together with the fact that trade training facilitates advancement to the more desirable jobs, makes it important to emphasize the value of both types of education to the boy who wishes to advance.

In the year 1918 there were 1,905 industrial accidents to minors, resulting in death, dismemberment, or incapacity for work lasting from 15 days to 1 year. A large number of these accidents occurred in the metal-working industries. Efforts toward accident prevention existed in all the factories visited, though in different states of development. In a few plants these efforts did not extend beyond compliance with the State accident board requirements as to the keeping of accident records, and a certain amount of inspection. At the other end of the scale were those plants which maintained a well-developed safety department, with an engineer and assistants whose business it was to inspect the factory for unsafe conditions, devise efficient machine guards, carry on a continuous educational safety campaign among workmen, and, above all, to make a minute study of accidents which occurred and take steps to prevent their repetition. The State records give cause of accident and extent of disability by age, but the lack of uniformity in reporting occupations makes it impossible to measure exposure to risk for minors as compared with that for adults. If the State accident board<sup>7a</sup> required employers to use a uniform classification of occupations and to report for each occupation the number of full-time workers employed, it would have in hand material for computing frequency and severity rates, an analysis of which is necessary for efficient prevention work.

The accurate and uniform naming of occupations on the factory records and their careful definition and analysis, which would be necessary in order to make reports according to such a uniform classification of occupations, are fundamental not only to the work of accident prevention, but also to adequate vocational training and guidance, and to intelligent issuance of employment certificates.

---

<sup>7a</sup> The powers of the State accident board were transferred in 1921 to the newly created department of labor and industry. See footnote 5, p. 56.



---

---

## APPENDIXES

---

---



## APPENDIX I.—DESCRIPTIVE ANALYSIS OF COMMON OCCUPATIONS OF MINORS.

Even this somewhat general survey of minors employed in the metal-manufacturing industries would lack completeness if it were not supplemented by descriptions of the kinds of work which they do. Teachers, vocational counselors, certificate-issuing officers, and other persons whose work is related to the transition of children from school to the various types of industry need to understand, at least in a general and untechnical way, the processes which the child will be called upon to perform. To obtain this knowledge is especially difficult for those without technical training or without the time and opportunity for personal investigation, because the comparatively simple types of work—in which minors are chiefly employed—have not been considered worthy of analysis by the technical writers on the subject.<sup>1</sup>

The limited scope of the survey made impracticable an exhaustive and technical study of the postural and other physical strains incident to each occupation or of the probable effects upon health and physical development of the work which these minors were doing. But it was felt that a careful description of the processes, attempting to emphasize the aspect of the work which made it difficult, hazardous, or mentally or physically trying would present such a picture of the young worker and his environment as would serve all practical purposes. The process studies were made and the descriptions written by a mechanical engineer familiar with the construction and operation of machines and with the technical work of metal manufacturing.<sup>1a</sup> The information in regard to the hazards incident to the occupations described was supplemented by data obtained from employers, safety engineers, and representatives of insurance companies carrying industrial accident risks, regarding general hazardous conditions and occupations in metal-manufacturing plants of the type studied and the dangers of the particular occupations in which minors were found engaged.

Because occupations designated as identical vary in detail with the type of product, the machine used, and the kind of establishment, it was necessary to select for each of these descriptions an individual process as carried on in a single factory. Nor was it possible, owing to limited space, to describe all the different kinds of work that

<sup>1</sup> See Appendix IV, Bibliography, p. 127, for references to technical works describing the more skilled occupations.

<sup>1a</sup> Later, the descriptions were read and criticized by officials, including superintendents and employment managers, in a number of the factories where the studies were made.

minors were found doing. But every effort has been made to select typical processes, and it is believed that these illustrations fairly represent the occupations of young persons in the factories studied.

The occupational descriptions were supplemented by information obtained from employment managers as to the general or technical education and the industrial experience needed for the type of operation described, as well as the time required for learning and becoming proficient in its performance. The occasional wide variations of opinion found were probably due less to actual differences in standards than to the fact that some occupations nominally identical in reality—owing to a difference in the tools used or in the nature of the product—required more training and skill in one factory than in another.

In order to show how each process relates to the work of the factory as a whole, the discussions of the specific occupations studied are arranged under the departments in which the workers are usually found. The departments are taken up as far as possible in an order corresponding to the factory organization for production, as follows: (1) Engineering department; (2) pattern shop; (3) foundry; (4) core room; (5) casting-cleaning department; (6) forge shop; (7) heat-treat department; (8) machine shop; (9) tool room; (10) sheet-metal department; (11) paint shop; (12) trimming and top-making departments; (13) inspection department; (14) assembly department; (15) testing, adjustment, and final-repair department; (16) other departments.

No one general outline, however, could be entirely accurate in detail for every plant, as production methods varied slightly in each one. None of the factories visited included all these departments, some because the product did not demand all types of work, others because certain of the parts used, such as forgings or castings, were purchased instead of manufactured.

### THE ENGINEERING DEPARTMENT.

**WORK DONE.**—In the engineering department are designed all the products which are to be made in the factory, as well as any special tools, jigs, dies, or fixtures necessary to their production. Drawings and blue prints are made for the pattern shop, the machine shop, and any other department doing work on any part. In automobile-body factories and other factories producing parts on special contract, however, designs and working drawings of the parts ordered may be furnished by the purchaser. All experimental work of the factory is done here, and materials used in the factory are tested.

**MINORS EMPLOYED.**—In the factories studied 13 minors were employed as draftsmen and designers, 3 as chemists, a few in testing materials for use in the factory, and a few as blue-print machine

operators, blue-print boys, and messengers. Most of the work of the engineering department demands such a high grade of skill and experience that few workers under 21 years of age are employed. Its chief importance in this study lies in the fact that many boys engaged in other work in the factory hope for promotion to other positions in this department as tool designers or draftsmen.

### **Tool designer and tool detailer.<sup>2</sup>**

*Description of work.*—The tool designer designs and makes working drawings for special tools, jigs, and fixtures, such as screws, turret-lathe fixtures, milling-machine tools, boring bars, and stamping, forming, and drawing dies. The detailer draws in detail from the general drawing the parts of any given machine.

*Hazards or strains.*—The work involves eyestrain, the exercise of a high degree of accuracy and responsibility, and the usual physical disadvantages of an exacting sedentary occupation. There is no accident hazard.

*Requirements.*—Thorough training in all drafting methods and conventions and in the accurate use of the T square, triangle, scale, protractor, and other drawing instruments, as well as experience as operators on the types of machines for which they are to design tools, are necessary for both designers and detailers. They must have a working knowledge of mathematics, mechanics, the strength of materials, and the relation of the views of mechanical drawings, and be able to make calculations and layouts and developments for sheet-metal work. They must be familiar with the common stock materials (such as bolts, nuts, washers, common sizes of stock iron and steel rods and bars), the standard types and sizes of drills, taps, dies, reamers, and gear cutters, know the meaning of the common shop terms (such as drill, ream, tap, bore, grind, taper, face, finish, etc.), know the use of reference books and catalogues, the principles of pattern making and molding, and the pattern-shop and foundry notations. The work of the detailer requires less responsibility and originality than that of the designer.

Tool designers must be at least 18 years of age. The employers interviewed preferred boys with experience as draftsmen, toolmakers, or machine hands.

*Learning period (tool designer).*—Two and a half to four years; from three to six years to become proficient.

### **Assistant chemist.**

*Description of work.*—The chemist in one of the automobile factories visited tested the chemical properties of samples of all materials used in the factory. The assistant chemist usually worked

<sup>2</sup> For earnings, see Table 7, p. 16, where these occupations are classified under draftsmen and designers.

with him, but on many occasions he had to work alone and take the sole responsibility of the test. Following is a partial list of the materials tested: Steel for phosphorus, sulphur, manganese, and carbon; alloy steel for chromium, nickel, vanadium, and tungsten; high-speed steel for tungsten; cast iron for sulphur, phosphorus, silicon, manganese, and carbon; iron and steel for hardness, by means of the scleroscope and the Brinell hardness machine; brass, bronze, babbitt, aluminum, and German silver for copper, lead, zinc, tin, antimony, magnesium, and aluminum; phosphorus bronze for phosphorus and manganese; paints, varnishes, and resins for oil content, kind of oil, pigment, and drier; lubricating oils and greases for flash point, burning, viscosity, per cent emulsion, and per cent ash; cutting compounds and cutting oils for per cent mineral and per cent vegetable oil.

*Hazards or strains.*—Slight burns and minor explosions in handling chemicals. Nervous strain due to responsibility, accuracy, and sometimes speed in doing work.

*Requirements.*—Courses in chemistry or engineering are usually required, though in some cases the necessary experience may be obtained in the factory.

*Learning period.*—For chemist whose work is described above, two years; a longer period to become proficient.

### **Scleroscope operator.**

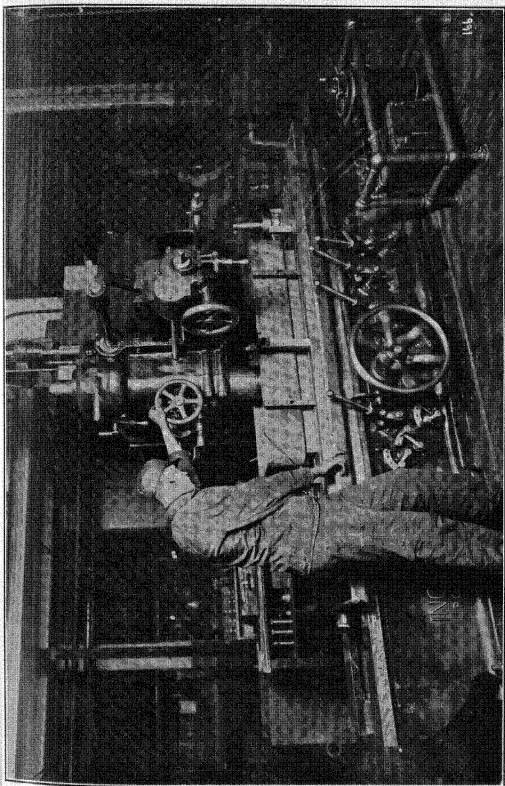
*Description of work.*—The testing of materials may be subdivided into several comparatively simple operations, one of which is the determination of the relative hardness of metals, by testing with a scleroscope. This instrument consists of a glass tube about a foot long and with an inside diameter of about one-fourth of an inch, in which is a small steel hammer tipped with diamond and controlled by a rubber bulb attached by rubber tubing to the top of the glass cylinder. The operator places the piece to be tested under the base of the scleroscope and lowers the glass tube until it rests upon this piece. He then squeezes the bulb and the hammer drops; as it hits the hardened surface it rebounds. The operator reads the height of the rebound as indicated on the graduated scale which is on or behind the glass tube and records it. He must read the scale very quickly and accurately at the moment the hammer reaches the height of its rebound.

*Hazards or strains.*—Little danger is inherent in the occupation. There may be physical strain due to handling heavy material.

*Requirements.*—No technical education is necessary. Experience in the factory as assembler or machine operator is desirable.

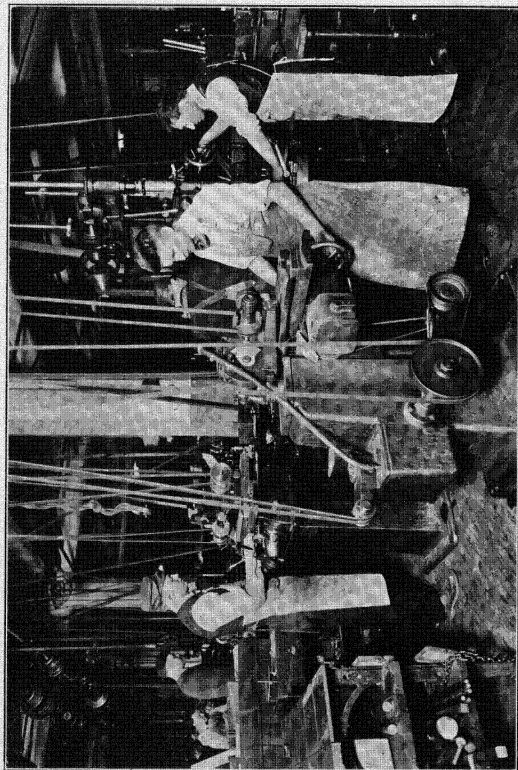
*Learning period.*—Two weeks; six weeks to become proficient.





PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE X—SURFACE GRINDER. GRINDING WHEEL HIDDEN FROM VIEW BY METAL GUARD.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XI.—EXTERNAL GRINDING.

**Blue-print machine operator.<sup>3</sup>**

*Description of work.*—The blue-print machine operator in one of the automobile factories studied ran the machine which made blue prints from the tracings sent in from the drafting room. He sat at a ledge or table attached to the machine and fed the blue-print paper from a roll in the box below onto a wide, moving, endless belt. As the blue-print paper moved along he placed the tracings on it. Paper and tracings moved under a convex plate of glass above which was a row of six arc lights. After printing the design, the machine carried the paper under a guard, to remove the tracings, through a stream of running water to develop it, and then over a rack containing a gas flame to dry. The machine was motor-driven, and the operator regulated its speed by shifting a foot lever. He had to know how to control the machine and the proper speed at which to run it.

*Hazards or strains.*—The glare of the arc lights involves some eye-strain, even when they are covered with a hood to reflect the light and to protect the operator's eyes.

*Requirements.*—An eighth-grade education is desirable. Any courses in drafting are valuable. Sixteen-year-old boys or girls may enter the occupation.

*Learning period.*—One week; three months to become proficient.

**THE PATTERN SHOP.**

**WORK DONE.**—Patterns to be used in making molds in the foundry and core boxes for making cores are made in the pattern shop. In the automobile-body factories, templates or exact patterns of every piece in the body, whether of wood or metal, are made from the sample body, which has been made up and approved previously.

**MINORS EMPLOYED.**—One minor was reported as a pattern maker; nine were pattern makers' apprentices.

**Pattern maker's apprentice.<sup>4</sup>**

*Description of work.*—An apprentice begins his training by doing odd jobs about the shop, sorting and storing patterns, and helping the other workers. As he becomes somewhat familiar with shop methods he is given small, simple patterns to make. As he works with the wood and the tools he becomes more skilled, so that he is able to do something a little more difficult. Later he is put to work on patterns that require the use of woodworking or metal-working machinery such as the band saw, the sander, the lathe, the grinder, etc.

<sup>3</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operator—Other.

<sup>4</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Apprentices.

*Hazards or strains.*—Machine-shop hazards.<sup>5</sup> Woodworking machinery used in making the woodern patterns is considered especially hazardous.

*Requirements.*—An eighth-grade education; in addition, some technical training is desired. Shop experience as a trucker or stock boy is valuable. The work is considered too hard for women.

*Learning period.*—An apprentice must serve four years to become a journeyman—a fact which indicates the skill demanded. Much skill and knowledge are needed to make the pattern so that it will come out of the mold easily (some have to be made in several pieces and put together with dowel pins) and allow for shrinkage of the metal as it cools and hardens.

### THE FOUNDRY.

**WORK DONE.**—Castings for the heavier parts of machinery are made in the foundry. Sand used in making the molds is mixed, either by machine or by hand; molds are made, either at the bench (small molds), on the floor (large molds), or by machine; iron, melted in a cupola or other furnace, is poured into the molds. When cool the casting is taken from the mold and the loose sand knocked off.

**FOUNDRY HAZARDS.**—In factories in which there were foundries, employers usually considered the work there more hazardous than in any other department. Danger of burns from molten metal, of bruises, and of strain from heavy lifting, exposure to extremes of temperature and to blinding light from molten metal, and the smoke, gas, and dust of the workroom make the foundries unhealthful and often dangerous places in which to work. In the large foundries the overhead crane for carrying molten metal adds another element of danger. These dangers are guarded against in some factories by furnishing leggings, aprons, and gloves to the workers and by providing and operating adequate ventilating apparatus.

**MINORS EMPLOYED.**—Six boys in the establishments studied were working as molders, a few as apprentice molders and molding-machine operators; 1 was a pourer; 105 were working in the foundry, core room, or casting-cleaning department, as laborers, helpers, chippers, chill-pickers, rattling-room laborers, core cleaners, carriers or stackers, or wire boys, or at other occupations.<sup>6</sup>

#### **Molder's apprentice and machine molder.<sup>7</sup>**

*Description of work.*—The apprentice enters foundry work with the intention of learning the molder's trade. At the beginning he is practically no more than a helper, but, unlike an ordinary helper, he is given some of the simpler kinds of work the practice of which will help him in advancing to more important work. He learns the

<sup>5</sup> See p. 75 et seq.

<sup>6</sup> See pp. 70-72 for description of work in the core room and the casting-cleaning department. In the tabulation no distinction was made between the laborers in the foundry and in these two departments.

<sup>7</sup> For earnings, see Table 7, p. 16, where this occupation is classified under apprentices and molders.

method of moistening the sand and mixing it before it is made into molds, how to place the patterns in the flasks, how to ram the sand in the flasks, how to ventilate the mold, how to remove the pattern from the sand, how to set the cores, how to use the tools for repairing slightly broken molds, how to put on the parting or facing sand. These are all processes which require care and judgment obtainable only through experience in doing the work.

The work of one of the machine molders in a large foundry consisted of making molds for iron castings on the molding machine, which was operated by air pressure. A mold is a cavity (of the same form as the desired casting) made by packing sand around a pattern and then removing the pattern. The flask, or box-like frame which holds the mold, consists of two parts known as the "drag," or lower part, and the "cope," or upper part. Each is filled separately; the cope is then placed on top of the drag. To make the drag, the molder fastened the lower side of the pattern to the table of the molding machine and put a flask on the table around the pattern. He partly filled this flask with molding sand, put in wooden pegs called "soldiers" or gagers" to hold the sand together, filled the flask full of sand, tapped it down, and smoothed it off. He then gently pushed a small wire down through the sand to make vent holes for the escape of the gas when the iron should be poured in, and placed on top a thin iron plate. There was another table on the machine above the mold, top side down, which, by turning a small lever, the operator lowered until it lay flat on the top of the flask. He turned another lever that caused both tables and the flask between them to jolt up and down, thus packing the sand tight in the flask. By turning a third lever the operator caused the machine to revolve the tables and flask so that the table to which the pattern had been fastened was on top. The turning of a fourth lever caused this table to vibrate slightly while the one now on the bottom was being slowly lowered; this made it possible to draw the pattern out of the mold without breaking the sand. The drag was then lifted by means of the iron plate on which it rested and placed on the floor. The molder wet the edges of the mold with a swab so that the sand would stick together and not crumble. Later he inspected the mold and repaired and smoothed any broken edges with a slicking tool. He also sifted a white parting powder onto the face of the mold so that the two halves would not stick together. Several drags were made at one time, then several copes to fit on top of them. The cope was made in exactly the same way as the drag except that in making the former a hole called the "sprue hole" was cut from the top of the sand down to the mold through which the molten iron might be poured. The complete operation of making drag and cope required about eight minutes.

*Hazards or strains.*—General foundry conditions and hazards.<sup>8</sup>

*Requirements.*—Most employers interviewed preferred molders who had had an eighth-grade education. Others said this was not absolutely necessary. School training in foundry work or experience in other foundries was considered desirable.

Because of the experience and physical strength required, only boys 18 years of age or older were employed as apprentices or as molders.

*Learning period (molders).*—From one to three years; from two to four years to become proficient. In some factories molders were required to serve an apprenticeship of four years.

### **Foundry laborer.<sup>9</sup>**

*Description of work.*—The following description shows the work of a foundry laborer in one of the establishments visited. While the molders were making their molds he shoveled new molding sand from a bin onto his wheelbarrow and wheeled it to the molders who needed it. He also wheeled facing sand to the molders. While the iron was being poured he shoveled facing sand through a screen set up slantingly.

*Hazards or strains.*—General foundry hazards. The work may involve strain from heavy lifting.

*Requirements.*—No education is required, though some employers said they preferred workers with a common-school education. Experience is not required, but the work demands strength and endurance.

*Learning period.*—Less than three days; one day to a week to become proficient.

### **THE CORE ROOM.**

**WORK DONE.**—In the core room cores are made to fit into the molds where holes or cavities in the castings are desired. Work here is on the whole lighter than in the foundry.

**CORE-ROOM HAZARDS.**—There is little accident hazard. The smoke and fumes from the core ovens are annoying and possibly harmful.

**MINORS EMPLOYED.**—Fifteen boys and sixteen girls were employed as core makers and 6 boys as core maker's apprentices. (See also page 68 under "Minors employed" for core-room laborers, helpers, etc.)

### **Core maker.<sup>10</sup>**

*Description of work.*—The work done in one of the smaller foundries in making a core for the hub of an automobile-engine flywheel is illus-

<sup>8</sup> See p. 68.

<sup>9</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Foundry and core room.

<sup>10</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Coremakers.

trative of the core maker's work. The worker first placed on a table in front of him a cylindrical iron core box (inside diameter about 8 inches and height about 6 inches) which was divided in halves and held together by thumb screws. In the bottom was a hole in which he inserted a seven-eighths inch pin long enough to reach the top of the box. He also inserted diagonally two one-half inch rods through holes in the sides of the box. In the completed core these rods make one large hole through the center and four smaller diagonal holes leading from the center to the outside which allow the molten iron to run through to the body of the flywheel. After the pins were in place the core maker filled the box with core sand, packed it down, and leveled it off with a heavy plate. Then he laid the plate on top, turned the box over, rapped it to loosen the core, took the box apart, and removed the pins, leaving the core on the plate. He then lifted plate and core to the rack on which it was to be baked in the core-baking ovens. After making about 15 cores he put kerosene on the pins and on the inside of the core box with a brush to prevent the sand from sticking to them.

*Hazards or strains.*—General core-room conditions and hazards.

*Requirements.*—Besides a good elementary education, the core maker should have a thorough knowledge of the method of handling core boxes and core sand. Experience as foundry or core-room laborer is of value.

*Learning period.*—In some factories it was reported that the work could be learned in a few weeks, but in others the employers said that two or three years' experience was needed to become proficient.

## THE CASTING-CLEANING DEPARTMENT.

**WORK DONE.**—In the casting-cleaning department the castings from the foundry are cleaned and smoothed by sand blast, by grinding, and, if small in size, by rattling (or tumbling). Projections on the castings may be chipped off with a chisel.

**CASTING-CLEANING DEPARTMENT HAZARDS.**—The air is likely to be full of dust from the rattling process and from the sand blast.

**MINORS EMPLOYED.**—See page 68, under Foundry, minors employed.

### Rattling-room laborer.<sup>11</sup>

*Description of work.*—It was the duty of one of the boys found working as a rattling-room laborer to pick up the castings after they had been taken from the rattlers, load them into a truck, and cart them to the bins at the other end of the room. As he unloaded, he sorted the different kinds and put them in their respective bins, throwing out the imperfect ones.

<sup>11</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Foundry and core room.

*Hazards or strains.*—Some physical strain is involved. The room is noisy and the air full of dust. Slight bruises and scratches may be incurred in handling the castings.

*Requirements.*—A common-school education is preferred but is not always required. The work demands considerable strength.

*Learning period.*—The work is very easy to learn.

### THE FORGE SHOP.<sup>12</sup>

**WORK DONE.**—In this department, which is known in some factories as the blacksmith shop, parts requiring both lightness and great strength, such as cam shafts or crank shafts, are forged out from hot steel by the action of two-part dies in the steam hammer. The welding of pressed steel or other parts may be discussed here, though it is not always done in the forge shop.

**FORGE-SHOP HAZARDS.**—Burns from working with hot metal.

**MINORS EMPLOYED.**—Fourteen minors were working as heaters, four as welders, and a few as helpers and laborers. Work as hammerman, forge man, or blacksmith requires such strength and skill that minors can seldom qualify.

### Heater.<sup>13</sup>

*Description of work.*—The heater observed in one forge shop picked up with long-handled tongs the pieces of iron which had to be heated before they were forged in the steam hammers, and placed them in the heating furnaces. He watched them to see that they reached the proper temperature for forging and replenished the supply as the hammermen's helpers took out the red-hot pieces. The furnaces were gas-heated ovens made of iron and lined with fire brick. The heater regulated the temperature by turning a valve in the pipe.

*Hazards or strains.*—Danger from the extreme heat of the work-room and risk of burns.

*Requirements.*—An elementary education is desirable but not always required. One employer said that any course dealing with the carbonization of metals would be valuable. The work is considered too hard for women.

*Learning period.*—One week or less; one week to one month to become proficient.

### Blacksmith's helper.<sup>14</sup>

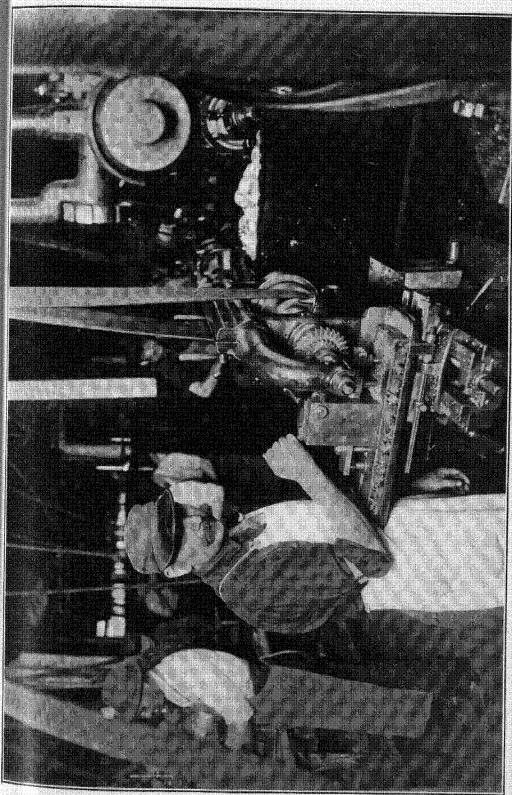
*Description of work.*—The work of the blacksmith's helper in one shop was to assist the blacksmith in whatever he might have to do. His usual duties were to keep clear the space around the forge,

<sup>12</sup> This department is not found in factories for which forgings are bought outside. In one factory studied, however, the principal product was drop-forged parts.

<sup>13</sup> For earnings, see Table 7, p. 16, where occupation is classified under Heaters.

<sup>14</sup> For earnings, see Table 7, p. 16, where occupation is classified under Apprentices.





PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XII.—MILLING MACHINE.

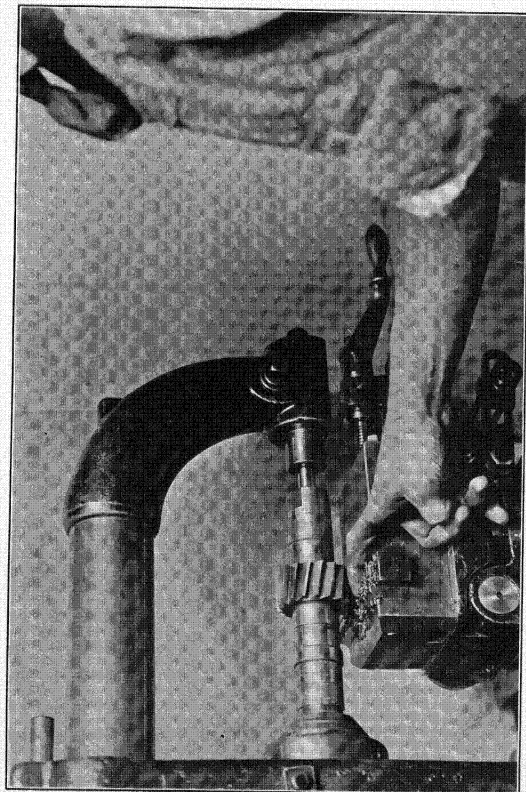


PLATE XIII.—MACHINE SHOP. CUTTER ON MILLING MACHINE, ILLUSTRATING DANGER OF USING FINGER TO CLEAN OUT SHAVINGS.

PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

keep the tools in place when they were not in use, hand the tools to the blacksmith when he asked for them, hold the end of the stock while the blacksmith was working on it, and act as hammerman to cut off stock or to form it while the blacksmith held the stock and the cut-off or forming tool. It was also his duty to keep coal on hand for the forge fire, and he might at times be given some of the simpler blacksmith work.

*Hazards or strains.*—The helper is in danger of being burned by flying sparks or by accidentally touching the hot iron and of being struck by particles of iron. In hot weather the temperature in the shop rises to a dangerous height. The work requires strength and endurance.

*Requirements.*—Eighth-grade graduates are preferred.

*Learning period.*—The work may be learned in one day and proficiency gained in a week or less.

### **Acetylene welder and electric-arc welder.<sup>15</sup>**

*Description of work.*—The work of the acetylene welder may be illustrated by a description of the welding of the two halves of a pressed steel automobile rear axle housing. The worker placed them in a form and tightened it so that the corresponding edges of the two halves were held firmly together. This accomplished, he lighted his acetylene blow torch and adjusted it (by turning the screws which regulated the amounts of oxygen and of acetylene) until the flame became blue and produced heat sufficient for welding.<sup>16</sup> He then held the end of a piece of steel wire about a foot in length, made especially for welding of this kind, on the crack between the two halves of the axle housing, and directed the flame against the end of the wire and also against the parts to be welded. As the wire melted it ran into the crack; the metal edges of the parts also melted slightly and ran together. He continued this process until the whole seam on one side of the housing was welded, then revolved the form and welded the seam on the other side in the same manner.

The work of an electric-arc welder in the same plant is an illustration of another type of welding. When inspection showed imperfections in the acetylene-welded seams of the automobile rear-axle housings, they were sent to this worker for repair. He first placed the housing on a bench, the top of which was connected with one electrode. The other electrode was connected to a clamp which held the welding wire. He switched on the current, regulated the voltage by a rheostat,<sup>17</sup>

<sup>15</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Blacksmiths, forge men, hammermen, and welders.

<sup>16</sup> Acetylene is a gas produced by the reaction between calcium carbide and water. This gas when mixed with air produces a very luminous flame, but when mixed with oxygen produces a heat intense enough to weld steel. The temperature of the flame may be varied by regulating the proportion of oxygen used.

<sup>17</sup> The rheostat is operated by turning a hand on a dial.

and holding the clamp by a handle rubbed the wire along the seam, lifting it up just enough to form an arc between it and the housing, thus melting the wire and the edges of the seam so that they ran together.

*Hazards or strains.*—The welder is liable to burns from flying particles of hot metal. The electric arc welder may also receive slight electric shocks. Dark goggles are usually worn to protect the eyes from the glare and flying sparks. The arc welder observed wore a metal helmet with a glass front, which afforded much better protection than goggles.

*Requirements.*—One of the three manufacturers who employed minors as welders preferred eighth-grade graduates and those who had had some technical training or experience as welders.

*Learning period.*—One or two months; from three to six months to become proficient.

#### THE HEAT-TREAT DEPARTMENT.

**WORK DONE.**—In the heat-treat department tools are tempered, forgings toughened by casehardening, dies hardened, sheet metal annealed ready for forming, and similar work done. The work of pickling sheet metal and forgings (that is, treating with acid baths in order to remove scale) is sometimes done in this department, sometimes organized separately. Other divisions of the work are made to suit convenience in different factories.

**HEAT-TREAT DEPARTMENT HAZARDS.**—The principal danger is from burns or from the acids used in pickling.

**MINORS EMPLOYED.**—Seven minors were working as heat treaters and seven as picklers.

#### Acetylene annealer.<sup>18</sup>

*Description of work.*—The work of the acetylene annealer observed in one factory was to anneal (or soften by heating) the metal around a 1-inch hole in a pressed-steel automobile rear axle housing cover, so that the operation of flaring this hole in the punch press would not crack the metal. The annealer set up a cover in a convenient position on his bench, adjusted the flame in the acetylene blow torch (see [p. 73]) and directed this flame against the metal around the hole until it was cherry red to a distance of about 1 inch around the hole. He then put this cover aside to cool slowly in the air while he repeated the operation on another.

*Hazards or strains.*—Goggles are worn to protect the worker's eyes from the glare of the torch as he sits at his bench. There is some danger from burns.

<sup>18</sup> For earnings, see Table 7, page 16, where occupation is classified under Heat treat.

*Requirements.*—Eighth-grade education preferred. The work is too heavy for women or for boys under 18.

*Learning period.*—A week or less; one month to become proficient.

### Casehardener's helper.<sup>19</sup>

*Description of work.*—In one factory the casehardener's helper assisted the casehardener in any way possible, as by handing him tools, cleaning the shop, and casehardening small parts, such as cams. In doing the latter work he picked up the cam with tongs, placed it in a small gas furnace, and left it there until it reached a cherry-red color. He then took it out with the tongs and rubbed it in powdered potassium cyanide until it was covered (this powder melts and forms a thin film over the cam). After this he quenched the cam in water and allowed it to remain there until perfectly cold.

*Hazards or strains.*—The helper whose work is described wore goggles to protect his eyes from the glare of the fire and the hot metal. In quenching the red-hot cam he must stand far enough away to avoid getting spattered with hot water.

*Requirements.*—Eighth-grade graduates are preferred. In one factory tool hardening was considered so skilled a job that minors were seldom able to qualify for it, but in the others visited hardening did not require much skill.

*Learning period.*—One week; six months to become proficient.

## THE MACHINE SHOP.

**WORK DONE.**—Parts from the foundry and forge shop are sent to the machine shop to be machined to exact size and finished.

**MACHINE-SHOP HAZARDS.**—Danger from belts, shafts, and gears, and from the moving parts of each machine makes this department one of the most dangerous in the factory. Hazards vary with the different types of machines. A large proportion of machine accidents occur on drill presses. Punch presses were named as the most dangerous machines because of the large number of dismemberments for which they were responsible. The guards provided almost invariably reduce output; consequently, the operator, working on piece rate, is tempted not to use them. In one factory the manager, believing that young workers had not the ability to concentrate attention on their work the whole day through and were therefore more liable to accident as punch-press operators than adults, took all workers under 21 from the presses. Accidents to punch-press operators fell as a result from an average of two in one month to two in the eight months in which the new policy had been in effect. The use of motor-driven instead of belt-driven machinery; efficient

<sup>19</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Others.

guards on all machines, shafts, gears, and belts; and proper clothing regulations have proved effective in reducing the hazards.

**MINORS EMPLOYED.**—In all, 619 minors, or about one-fifth of the total number, were employed as machine operators. As is shown by Table 29, 123 of them were working as drill-press operators, 99 as grinders, 98 as lathe operators, 89 as milling-machine operators, and 210 as operators on other kinds of machines. Two girls and 62 boys were classified as machinists other than repair men; of these, 38 were testers, 14 adjusters, and 12 machine setters or other machinists.

TABLE 29.—*Kind of machine operated, by sex; minors in metal-manufacturing industries.*

Kind of machine operated.	Minors in metal-manufacturing industries.			Kind of machine operated.	Minors in metal-manufacturing industries.		
	Total.	Boys.	Girls.		Total.	Boys.	Girls.
Total .....	2, 840	2, 536	304	Machine operators—Contd.			
Machine operators.....	619	542	77	Boring.....	11	11	.....
Drills.....	123	115	8	Broach.....	6	6	.....
Speed.....	4	4	.....	Planers.....	3	3	.....
Other <sup>1</sup> .....	119	111	8	Presses.....	22	19	3
Grinders.....	99	98	1	Punch-press.....	18	15	3
External.....	21	21	.....	Stamp-press.....	3	3	.....
Internal.....	8	8	.....	Other <sup>1</sup> .....	1	1	.....
Surface.....	2	2	.....	Saws.....	13	13	.....
Hand.....	1	1	.....	Screw.....	29	29	.....
Tool.....	27	26	1	Hand screw.....	9	9	.....
Other <sup>1</sup> .....	40	40	.....	Automatic screw.....	5	5	.....
Milling.....	89	81	8	Other <sup>1</sup> .....	15	15	.....
Hand.....	3	3	.....	Sewing.....	26	.....	26
Gear.....	15	13	2	Gear shaper.....	1	1	.....
Other <sup>1</sup> .....	71	65	6	Other shapers.....	4	4	.....
Lathes.....	98	94	4	Shears.....	5	5	.....
Turret.....	20	19	1	Tapping.....	8	6	2
Low swing.....	2	2	.....	Thread.....	26	11	15
Other <sup>1</sup> .....	76	73	3	Other machine operators.....	56	46	10
				Not machine operators.....	2, 221	1, 994	227

<sup>1</sup> Includes not specified.

**REQUIREMENTS.**—Employers as a rule preferred operators who had had at least a sixth or seventh grade education and several preferred eighth-grade graduates. Most of them considered any technical training in machine-shop work valuable. Many machine operators need sufficient knowledge of drafting to read simple blue prints.

### Drill-press operator.<sup>20</sup>

*Description of work.*—The work of a drill-press operator in one of the machine shops visited was to drill five holes in a casting, using a four-spindle, high-speed drill press. He put the casting in a jig made for this particular piece of work and clamped the cover of the jig firmly over it. (A jig is a device for holding work while drilling; bushings in the jig indicate the size and location of the holes to be

<sup>20</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Drills.

drilled.) Then he lifted the jig and casting to the drill-press table. The drill press was equipped with four spindles (devices to hold the drilling tool), three holding drills of different sizes, and one holding a reamer (a tool used to enlarge a hole). The operator pulled down on a hand lever which brought the drill down through the hole in the jig where it bore on the casting until the hole was drilled. He drilled another hole with the same drill, then two holes with the drill next larger in size which was on the second spindle, then a large hole with the drill on the third spindle. Through the last hole he ran the reaming tool which was on the fourth spindle. The whole operation took about four minutes.

*Hazards or strains.*—Even with the machine well guarded, there is some danger from breaking drills and from contact with the moving drill. The operator stands at his work and must watch it very closely.

*Requirements.*—The operator should be able to read simple blue prints. Very little skill is required, since the holes in the jig indicate the position and size of the holes to be drilled. In two factories girls were working as drill-press operators.

*Learning period.*—As a rule operation of the machine can be learned in a few weeks at most and proficiency attained in a few months.

### Surface-grinder operator.<sup>21</sup>

*Description of work.*—Surface grinding is the term applied to grinding smooth a flat surface. The work of one of the surface-grinder operators in an automobile factory was to grind down the top surface of a die shoe until the tool marks of the shaper used to finish it were ground off and the surface left perfectly smooth. The operator placed the die shoe in position on the horizontal table of the grinder, where it was held in place by magnetic attraction, adjusted the grinding wheel to the correct position by turning the handwheel, threw the long hand lever that shifted the countershaft clutch, shifted the clutch on the machine, and when he was sure that everything was in position shifted the small hand lever that threw in the automatic feed. The grinding wheel, driven by a vertical spindle, was of emery and measured 14 inches in outside diameter and 12 inches in inside diameter. The table of the machine was automatically fed up as it moved back and forth, the amount of the feed being adjusted by the operator in accordance with instructions from the foreman.

*Hazards or strains.*—The machine was well guarded, so that the hazard was slight, although there was some danger from the breaking of the wheel and from flying particles. Since this was dry grinding there was some dust in spite of the suction pipe attached.

*Requirements.*—See machine-shop requirements. Truckers and rough grinders are frequently promoted to this position.

<sup>21</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Grinders.

*Learning period.*—Two to six weeks; six weeks to six months to become proficient.

### **External grinder.<sup>22</sup>**

*Description of work.*—This type of grinding is illustrated by the work of a boy who was grinding piston rings on an external-grinding machine to correct outside diameter. To prepare the rings for the machine he slipped them on a rod about an inch in diameter which was threaded on one end and on the other fitted with a flange or base somewhat smaller in diameter than the piston rings were to be when finished. He separated each five rings by a plate of the same diameter as the base of the rod and put such a plate at the end when the rod was filled. Before screwing on the bolt which held all the rings in place on the rod he put the whole in a casing, made with its two halves hinged together, and tightened the bolts of the casing to bring all the rings to a uniform position concentric with the rod. By tightening securely the nut on the end of the rod the rings were held in position and the casing could be taken off. The operator then placed the rod with the rings on it in position between the centers of the grinding machine, tightened it, and pushed the lever to start the machine, which revolved the work and moved it automatically back and forth against the revolving emery wheel. The wheel also moved automatically toward the work. The operator had to measure with calipers occasionally to determine whether the rings were ground to correct size. While the machine was grinding, the operator set up new work.

*Hazards or strains.*—On this machine cutting fluid was used, so that there was no dust from the work. The gears, emery wheel, and other moving parts were well guarded. Minor bruises and scratches might be received while setting up the work and putting it in the machine. The grinder stood all day, lifted the work to the machine, and had to read the measurements carefully.

*Requirements.*—Operators should have at least a common-school education and be able to read simple blue prints and to use the micrometer calipers. Boys at least 18 years of age were preferred for the work.

*Learning period.*—One to six weeks in most of the factories visited, but one employer said that it might take an operator three years to become proficient.

### **Internal grinder.<sup>22</sup>**

*Description of work.*—Internal grinding may be illustrated by the work of a boy who was grinding the inside of a cylinder. He bolted a fixture plate to the flange of the cylinder, hooked cylinder and

<sup>22</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Grinders.



plate to an air hoist, and raised them by means of this hoist to a fixture on the machine. To this fixture he bolted the plate already fastened to the flange of the cylinder. He started the machine by shifting a long lever which reached to the shaft near the ceiling; then shifting another lever on the machine he started the automatic feed, which caused that part of the machine to which the cylinder was attached to slide back and forth. As the cylinder moved, its inside surface came in contact with a high-speed grinding wheel mounted on an eccentric spindle which moved the wheel slowly around the inside of the cylinder. At each revolution of this spindle the operator gave the small wheel which controlled it a quarter turn, causing it to describe a larger circle and so grind a little deeper into the cylinder. He measured the inside diameter of the cylinder occasionally with calipers through a hole in the sheet-iron guard, and stopped the machine when the size was correct. The whole operation took about 15 minutes.

*Hazards or strains.*—Some of the iron and emery dust got into the eyes and nose of the operator, in spite of the suction hose attached to the cylinder to carry it away. He was in some danger of being hit by the revolving spindle while taking measurements, or by the fast-moving belt which drives the emery wheel if this belt should break. The worker stood all day and had to watch the work closely and read measurements accurately.

*Requirements and learning period.*—Same as for external grinders.

### **Reamer-grinder operator.<sup>24</sup>**

*Description of work.*—Tool grinding may be illustrated by a description of the work of sharpening plain fluted reamers (tools used on the drill press) in one of the large automobile factories visited. The grinder used was a small emery wheel about 6 inches in diameter and five-eighths of an inch thick, running at high speed. The operator put the reamer between the centers on the machine which were made to hold it; pushed the lever controlling the cross feed, which moved the tool up to the grinding wheel; and pushed the lever controlling the lengthwise feed, which moved the tool across the grinding wheel to take the cut. Since the reamer was fluted, the edge of each fluting had to be ground to the same angle. After grinding the first edge, the operator read the dial on the cross feed which indicated just how far the reamer had been moved toward the grinding tool. Then he revolved the reamer in its rest until the edge of another fluting was in position and pushed the lever on the cross feed till the dial read the same as for the first operation. This was repeated till all the edges were ground.

<sup>24</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Grinders.

*Hazards or strain.*—The machine was guarded in such a way as to protect the operator from flying pieces in case the wheel should break. Since no fluid was used in grinding there was some dust.

*Requirements.*—Common-school education preferred. Courses in tool making and experience in other kinds of grinding are valuable.

*Learning period.*—Somewhat longer than for the types of grinding discussed previously.

### **Milling-machine operator.<sup>25</sup>**

*Description of work.*—This process may be illustrated by the work done in operating a hand milling machine to mill the two sides of a block or pin used as an automobile-brake cable end. As the block came to the operator it was cylindrical; the machine sliced off enough metal to make two parallel plane surfaces. A clamping fixture holding four of these blocks at once was fastened to the table of the machine. The two milling cutters on the arbor of the machine were spaced just far enough apart to cut the two sides of the block at the same time. The operator put four blocks in the jaws of the clamping fixture, fastened them securely by tightening the jaws with a hand lever, and fed the table of the machine up to the cutter by turning a hand crank. After the cuts were completed on all four blocks, he moved the table back by reversing the hand crank and took the blocks from the clamping fixture. The complete operation required about one minute.

*Hazards or strains.*—General machine-shop hazards. Cutting compound is fed automatically on the tool while cutting.

*Requirements.*—General machine-shop requirements. Minors under 17 were not employed.

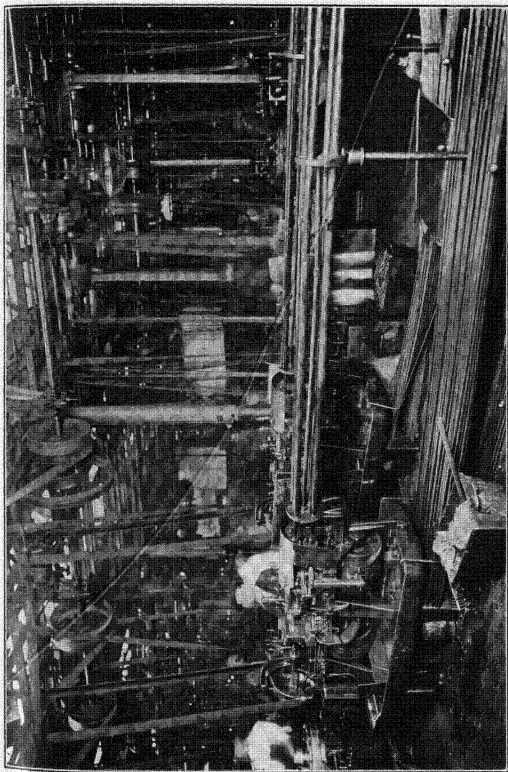
*Learning period.*—About two weeks in most factories. In one factory three years were required to become proficient, but in most of them proficiency could be gained in less than one year.

### **Screw-machine operator.<sup>26</sup>**

*Description of work.*—The work of a hand turret-screw machine operator in one of the machine shops visited was to cut off pieces 6 inches in length from a long bar of round cold-rolled steel stock, after drilling a hole in one end, chamfering the edge of this hole, and chamfering the outside edge of the other end of the piece. By pulling forward a lever the operator drew the bar of stock through the lathe center up against a stop in the turret head. The turret head, which was placed on the bed of the lathe opposite the lathe center, had six sides, of which five, holding respectively a stop, a center drill, a drill, an inside chamfering tool, and another stop, were used in this operation. As the operator moved this turret back by

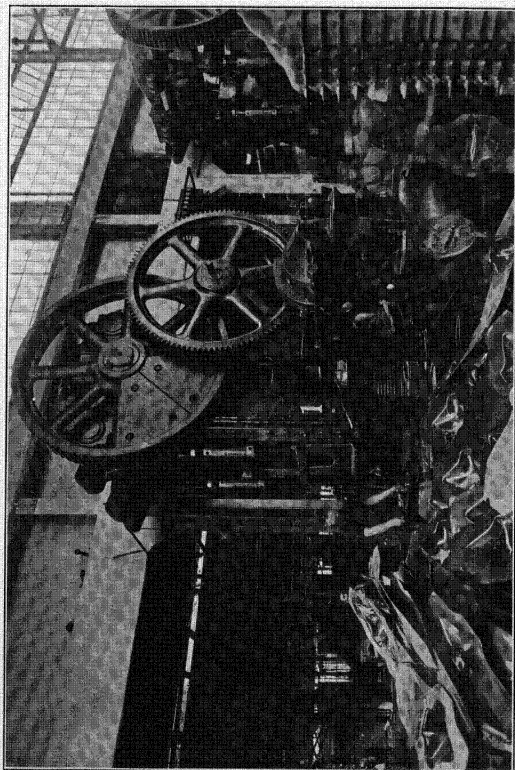
<sup>25</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Milling.

<sup>26</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Screw.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XIV.—MACHINE SHOP. AUTOMATIC SCREW MACHINE.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XV.—PUNCH-PRESS DEPARTMENT, HEAVY, PUNCHING OUT REAR-AXLE HOUSINGS.

hand lever it automatically rotated through  $60^{\circ}$ , bringing the center drill in line with the center of the bar. Then, as he pulled the hand lever forward, the tool in the turret head drilled the center in the revolving bar. In the same way he drilled the hole and chamfered its inside edge. With the hand lever he then moved the work up to the stop (the fifth tool in the turret head) which indicated the correct location for the use of the outside chamfer and cut-off tools held in the tool posts of the cross feed, one on one side of the work and one on the other. He operated first the chamfering tool, by hand lever, across the machine in one direction, and then the cut-off tool by pulling the same lever back again. The whole operation required about four minutes. It is similar to other kinds of work on a turret lathe.

Automatic screw machines perform automatically all the operations described above. The operator may tend four or more such machines, oiling them, regulating the flow of the cutting compound, taking away shavings if they are clogging the machine, replacing dull tools with sharp ones, and putting in new stock.

*Hazards or strains.*—Scratches and cuts to hands and fingers from contact with the moving parts of the machine, and injury to the eyes from flying particles. Gears and motor on the machine observed were guarded. Strain is involved in the close watching of the work and in the speed of production.

*Requirements.*—Besides knowing how to control the machine, the operator should be able to read simple blue prints. (See also general machine-shop requirements.)

*Learning period.*—Generally a few weeks.

### **Boring-machine operator.<sup>27</sup>**

*Description of work.*—Operation of the boring machine may be illustrated by the work of a boy who was boring out the hub of a flywheel casting on a vertical boring machine with automatic feed down and from right to left. He fastened a hook into the flywheel, lifted it by means of chain hoists, and rolled it to the table of the boring machine along the track which supported the hoist. He unfastened the hook, moved the wheel into place on the table, and fastened it there securely by turning a crank in the universal chuck (or clamp), which was located on the table in such a position that the center line of the hub was exactly in line with the center of the boring tool bar. He then started the machine by shifting the clutch on the overhead countershaft by means of a long lever. He loosened the turret head on the machine, which contained three tools, by moving a hand lever and swung it around until the first boring tool

<sup>27</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Other.

came automatically in line with the center of the hub. He then clamped the turret head firmly by hand lever, so that there would be no danger of its turning loose, and pushed a small gear into mesh by hand, which caused the machine to feed the boring tool automatically through the hub. This cutting operation finished, the operator raised the turret by a hand crank and revolved the head to position so that the next boring bar was in line with the center of the hub. Again he threw in the small gear by hand and this second boring tool was fed through the hub automatically. Then, having raised the turret head and swung it until the reamer was in place, he fed the reamer through the bored hole by using a hand crank, oiling the reamer to obtain a smooth cut. After this he released the jaws of the universal chuck, raised the flywheel from the table by the chain hoist, and conveyed it to a pile of finished work. The time of operation was about eight minutes.

*Hazards or strains.*—General machine-shop hazards.

*Requirements.*—The operator should be able to read simple blue prints. (See also general machine-shop requirements.)

*Learning period.*—Length of time to become proficient varies from a month to three years, depending upon the nature of the work.

### **Punch-press operator.<sup>28</sup>**

*Description of work.*—The work observed was that of forming on a heavy punch press the flange of a 12-inch disk. Two operators worked at this machine, one to insert the disk and to trip (or start) the machine, the other to take the disk out of the machine after it had been formed. The first operator put the disk on the lower part of the die between four pins which held it in correct position, and then pressed down on the foot pedal. This caused the upper part of the die to come down onto the lower part and in so doing to press the disk down over it, thus forming a flange. After the flange was formed the upper half of the die moved up to its original position and the machine stopped. The second operator then took the work from the die; sometimes it slipped off easily and sometimes it stuck so that he had to use a small hook to loosen it.

*Hazards or strains.*—It was impossible for the machine observed to operate unless the foot lever was first pressed, but the danger was that the work might become so monotonous that the operator would thoughtlessly press his foot on the pedal at the wrong time and cause an accident. (See general machine-shop hazards.)

*Requirements.*—General machine-shop requirements.

*Learning period.*—The experience stated by employers as necessary to become proficient as a punch-press operator varied from a week in one factory to a year in another.

<sup>28</sup> For earnings, see Table 7, page 16, where this occupation is classified under Machine operator—Press.

**Tapping and threading-machine operators.<sup>29</sup>**

*Description of work.*—The work of a tapping-machine operator in one of the automobile factories visited was to tap out (or cut) one-half inch screw threads in specially shaped nuts. The tapping tools were held in chucks (or clamps) and projected upward, while the nuts were held in place by small spring clamping devices fastened to spindles that projected downward in line with the tapping tools. The machine had five spindles so that five nuts might be tapped at one time. The operator slipped the five nuts into the clamping devices, fastened them in place on the spindles, and pushed down on a hand lever that pressed down the spindles and revolved them so as to make the tapping tools cut the threads in the nuts. The amount of travel of the spindles was regulated by a stop on the machine; when this was reached the operator pulled up on the hand lever causing the spindles to reverse their rotation and screw the nuts off the tap. A cutting compound was automatically fed into the work by a small circulating pump.

The hand threading-machine operator observed was cutting screw threads for about two inches on the end of a valve stem. He placed the valve stem between the jaws of the clamp in the machine and tightened the clamp by turning a hand wheel, then threw a small lever on the die which drew its cutting tools close enough together to make threads on the valve stem. (The size was regulated by a stop on the machine already set.) Then he pushed the valve stem into the revolving die until the die cut a few threads, after which it automatically drew in the stem. After about 2 inches had been threaded the operator spread the cutting tools of the die by reversing the lever, opened the clamp of the machine, and removed the valve stem. Oil was automatically fed onto the die and the valve stem. The whole operation required about one minute.

*Hazards or strains.*—This is one of the simpler and less hazardous machine operations.

*Requirements.*—General machine-shop requirements.

*Learning period.*—One day to two weeks; as a general rule, one to six weeks to gain proficiency

**Die setter.<sup>30</sup>**

*Description of work.*—When a piece of sheet metal is to be punched or formed, or both, a die is made in such a way that when its two halves are pressed together the piece will be pressed or punched into the desired form. It is the die setter's work to put the die in the punch press and so to adjust it that the work will be turned out

<sup>29</sup> For earnings, see Table 7, page 16, where these occupations are classified as follows: Tapping, under machine operator—Other, and Threading under Machine operator—Thread.

<sup>30</sup> For earnings, see Table 7, page 16, where this occupation is classified under Machinists—Setters.

accurately. Whenever a machine turns out imperfect work the die setter examines the die and repairs it if possible. If it is broken so that it can not be repaired in his department, it is sent to the die-repair department of the tool room.

*Hazards or strains.*—The operator is liable to accident while repairing or setting the dies in the machines. (See general machine-shop hazards.)

*Requirements.*—Die setters should be good mechanics and be able to read common shop blue prints. Experience as machine operators is necessary. (See also machine-shop requirements.) This is one of the more skilled of the jobs in the machine shop.

*Learning period.*—A machine operator needs three months or more to become proficient as a die setter.

### **Set-up man for screw machine.<sup>31</sup>**

*Description of work.*—The screw machine set-up man in one of the factories visited was required to keep in adjustment one automatic and five hand screw machines, of the turret screw-machine type. The turret heads are hexagon shaped with six tool sockets, one on each face of the turret. The tools used, including center drills, drills, threading dies and taps, reamers, chamfering tools and stops, varied according to the nature of the work to be done. The work of the set-up man was to place in the machine the long rod of bar stock from which the screws were made so that its center would line up exactly with the tool sockets in the turret, to line up the tools and stops in the turret, so that the pieces would be cut to correct length, and to adjust the travel of the turret so that each tool would do exactly the work required of it.

*Hazards or strains.*—The worker's hands and fingers may be pinched, cut, or scratched while setting up machines and trying them out. This also is one of the more skilled jobs.

*Requirements.*—Experience in machine operation, accuracy, and responsibility, and an understanding of blue prints of small parts.

*Learning period.*—Three years.

### **Set-up man and foreman.<sup>32</sup>**

*Description of work.*—It was the duty of a set-up man and foreman in one shop visited to set up all the machines in his department and to oversee all work done, occasionally checking the finished work of each operator to see that it was being done accurately. The following were the machines under his supervision: Four milling machines, one cam miller, three lathes, two drill presses, one piston-ring slotting machine. He used calipers, micrometers, scales, combination sets

<sup>31</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Setters.

<sup>32</sup> For earnings, see Table 7, p. 16, where these occupations are classified as follows: Set-up man under Machinists—Setters; foreman under foreman and superintendents.



(composed of center head and level), wrenches, screw drivers, and other tools.

*Hazards or strains.*—General machine-shop hazards.

*Requirements.*—As set-up man, the worker must understand thoroughly the operation of all the machines under his supervision, and, as foreman, he must be able to supervise others, check up work readily, and teach new workers. This is one of the skilled jobs of the shop, to which few workers under 21 had advanced.

*Learning period.*—Three years.

### **Machine-shop trucker.<sup>33</sup>**

*Description of work.*—The trucker in one shop visited was using a two-wheeled two-handled hand truck to move cylinders from one machine to another for the different operations. He had to keep 16 machines supplied with cylinders.

*Hazards or strains.*—Physical strain from lifting cylinders weighing between 50 and 75 pounds from the pile to the floor and carrying them from one pile to another, and also from lifting the handles of the truck when it was loaded with two cylinders. Some danger of jamming and pinching fingers and hands between heavy cylinders.

*Requirements.*—Little education or training was necessary. The worker must learn the location of the machines he is to supply and the sequences of the operations performed.

*Learning period.*—About an hour; proficiency gained generally in a week.

## **THE TOOL ROOM.**

**WORK DONE.**—Tools, jigs, dies, and fixtures for the machines are made in the tool room. Though more varied and highly skilled, the work does not differ greatly from that of the machine shop.

**MINORS EMPLOYED.**—Fifteen boys were working as toolmakers and 14 as apprentice toolmakers. Some of the boys classified as repairmen<sup>34</sup> were working in this department as "tool-trouble" men and die repairers, and at other types of repair work.

### **Bench work, die-repair man.<sup>35</sup>**

*Description of work.*—In one of the pressed-steel factories visited dies which had been broken in the machine shop in such a way that they could not be repaired there were sent to a die-repair man. With each die were instructions for repairing it and sometimes a blue print of it. To put these dies in perfect condition necessitated all-round machine work as well as fitting and assembling on the bench.

*Hazards or strains.*—General machine-shop hazards.

<sup>33</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Truckers.

<sup>34</sup> See Table 7, under Machinists, for numbers employed.

<sup>35</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Repair.

*Requirements.*—A common-school education with preferably a high-school or trade-school course, ability to read comparatively difficult shop blue prints, and experience in operating all the common machine-shop machines.

*Learning period.*—Two to four years.

### THE SHEET-METAL DEPARTMENT.

**WORK DONE.**—In automobile-body factories the sheet-metal department, where metal parts are cut and formed to fit over the wooden body, is an important one. In other factories also, which use sheet metal in manufacturing, the metal parts must be cut, formed, and punched.

**SHEET METAL DEPARTMENT HAZARDS.**—The machines used are dangerous, particularly the small punch presses.

**MINORS EMPLOYED.**—Twenty-three boys were employed as sheet-metal workers and a few as hammerman's helpers, rotary-shear operators, punch-press operators, or laborers and helpers. (For discussion of punch-press operators, see page 82.)

#### Sheet-metal marker.<sup>36</sup>

*Description of work.*—The sheet-metal marker in an automobile-body factory marked out on sheet iron the shapes used in making up the metal parts of the automobile bodies. He laid the sheet iron on a table made especially for this work, placed a template or pattern on top of the sheet iron, and marked all around it with a steel marker, thus transferring the outline of the template to the sheet iron. He had a number of differently shaped templates and tried to fit them on the metal in such a way as to waste as little of it as possible.

*Hazards or strains.*—Little hazard in this occupation.

*Requirements.*—Little skill necessary.

*Learning period.*—Proficiency can be acquired in about one day.

#### Rotary-shear operator.<sup>37</sup>

*Description of work.*—The work of the rotary-shear operator in the same factory was to guide a sheet of metal through the rotary shears so that a piece would be cut out according to the design marked on the metal by the marker. The rotary-shear machine has two revolving disks about 3 inches in diameter, made of very hard tool steel. They are sharpened on the edges and adjusted to cut like a pair of shears. A table is provided, the top of which is in line with the point where the edges of the two wheels meet. The operator placed on this table the sheet to be cut and guided it

<sup>36</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Sheet-metal workers.

<sup>37</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machine operators—Other.

through the shears so that the disks would cut along the line drawn on the sheet.

*Hazards or strains.*—The operator wore gloves to protect his hands in handling the sheet metal. He had to watch the work closely to guide it between the shears exactly on the marked line.

*Requirements.*—Eighth-grade graduates were preferred. Boys under 18 were not employed. Experience as a helper was required.

*Learning period.*—About a year is necessary to become proficient.

### **Hammerman's helper.<sup>38</sup>**

*Description of work.*—In forming the cowl, the rear end, and some other parts of the automobile body, the sheet iron can not merely be bent to shape but must be formed; that is, parts of it must be stretched to give the correct shape; this must be done very smoothly so that there will be no wrinkles or seams. The work is done in the power bumping hammer. Two helpers stand, one on each side of the hammerman and hold up the sheet iron so that he may devote his attention to guiding it under the hammers.

*Hazards or strains.*—Physical strain of holding up the heavy metal. The workers wear gloves while handling the sheet iron. Noise from the bumping hammers is loud and incessant.

*Requirements.*—The work, while not skilled, requires such strength that boys under 18 and women are not employed.

*Learning period.*—A few minutes; proficiency gained in a week.

### **Sheet-metal flanger.<sup>39</sup>**

*Description of work.*—The work of one of the sheet-metal flangers in an automobile-body factory was to turn down an edge or flange three-fourths of an inch wide on a piece of No. 24-gauge sheet iron to be used for the automobile rear-wheel housing. The flanger laid the panel of sheet metal to be flanged upon a thick cast-iron form, the top and edges of which conformed to the shape of the finished work. Stops were provided that allowed the edge of the sheet-metal panel to extend the necessary distance beyond the form. To hold the panel firmly in place the flanger brought down on top of it another form made in the same shape, hinged to the first, and clamped them together. He then hammered down the edge with a wooden hammer until it was smooth.

*Hazards or strains.*—The worker observed wore gloves to protect his hands from cuts and scratches.

*Requirements.*—Eighth-grade graduates were preferred. Boys under 17 were not employed.

*Learning period.*—Two days; a week to become proficient.

<sup>38</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Other.

<sup>39</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Sheet-metal workers.

**Door paneler.<sup>40</sup>**

*Description of work.*—A door paneler in an automobile-body factory visited was attaching hinges to the frame of an automobile door and putting the sheet-iron covering over the outside of the door. He placed the wooden doorframe (already fitted with the latch) on a form which rested on a bench and was just large enough to accommodate it. Then he pulled down a lever which lowered upon the doorframe a clamping device with four stops to hold the frame firmly in place in the form and put the two hinges in slots provided for them, so as to make their flanges flush with the frame. He next drilled the bolt holes with an air drill. He started the drill by turning a lever which let in compressed air and pressed its point on the spot where the hole was to be drilled. Next he put in the eight stove bolts, four for each hinge. On each bolt he put one plain washer against the wooden frame, one lock washer and a nut, then screwed in the bolt and tightened it with a spiral screw driver. After putting the hinges on the frame, he released the clamp that held it and took it out of the form. Then he placed on the form a panel of sheet iron already shaped to fit the frame, laid the frame on it, and by means of the clamping device before used pressed the frame down into the panel. With small nails he then nailed the flange of the panel to the edge of the doorframe, holes being provided in the flange for this purpose. The operation required about five minutes.

*Hazards or strains.*—Possibility of minor bruises and cuts. Physical strain from standing all day; nervous strain of rapid production.

*Requirements.*—Eighth-grade graduates are preferred. Boys under 18 are not employed.

*Learning period.*—Six weeks; two months to become proficient.

**Body finisher.**

*Description of work.*—The work of a metal-body finisher in one of the establishments visited was to smooth the metal part of the automobile body so that no rough places or bumps would show after it was painted. The body came to this department with all hollows and dents that could not be straightened out filled with Babbitt metal. The finisher went over the whole surface smoothing it down with files of different grades, some coarse and some fine. If considerable filing had to be done he used first a coarse, fast-cutting file until the projection was nearly removed, then a finer file for finishing. In filing a surface of such breadth that the ordinary file handle would interfere with the strokes of the file, he used a special handle called a "surface file holder."

*Hazards or strains.*—Little hazard involved.

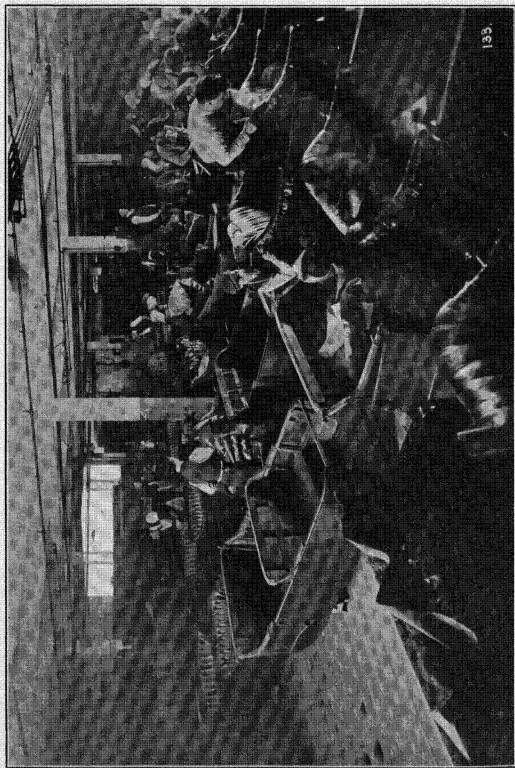
---

<sup>40</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Sheet-metal workers.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XVI.—LIGHT PUNCH PRESS.



133.

PLATE XVII.—TRIM SHOP. PUTTING UPHOLSTERY ON BODIES.  
PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

*Requirements.*—Little special knowledge required. One employer preferred eighth-grade graduates; another required literacy only. Boys of 16 or 18 were sometimes employed, but the job required such strength and skill that not many minors were qualified.

*Learning period.*—One to three weeks; six weeks to three months to become proficient.

### Sheet-metal bench jobber.<sup>41</sup>

*Description of work.*—A sheet-metal bench jobber does the general sheet-metal work for the factory and often belongs to the factory maintenance department. He must be an all-round sheet-metal worker and tinsmith, since his work is to make up from blue prints, drawings, or sketches the ventilating flues, eave troughs, and sheet-metal parts required about the factory. He lays out the work, cuts it, and puts it together, soldering the joints when necessary. In addition to doing bench work, he also may help to install the work.

*Hazards or strains.*—The sheet-metal jobber may receive slight cuts, scratches, or bruises from the sheet iron, and burns from hot solder. He is in danger of falling while installing work.

*Requirements.*—Ability to read blue prints and to do sheet-metal drafting, including triangulation.

*Learning period.*—A five years' apprenticeship was required in one factory visited.

## THE PAINT SHOP.

Many metal products must be cleaned, painted, or varnished before shipment, and although this is not strictly metal work, in the automobile factories, the priming, rubbing, sanding, varnishing, enameling, and painting of the body form an important part of the factory process. Some of the work is done by dipping, some by spraying, some by hand painting. The hazards are those usually incident to using paint and varnish. In the factories visited 17 minors were employed as painters and 10 as dippers, sprayers, rubbers, or sanders.

## THE TRIMMING AND THE TOP-MAKING DEPARTMENT.

In automobile and automobile-body factories producing a finished body the upholstered cushions, seats, and backs are made and put in place on the body in the trim shop. In such factories there is also a top-making department where tops are built over the bows and sockets. This work, while not belonging strictly to metal manufacturing, is a necessary part of automobile production. Forty-four girls and 60 boys were working as trimmers in the establishments included in the survey; 18 of the boys were working as bow coverers or top builders.

<sup>41</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Sheet-metal workers.

### THE INSPECTION DEPARTMENT.

**WORK DONE.**—In the inspection department parts are inspected to see that they are ready for use. In some factories, however, this work is done in each department as one of the last processes in the production of each part. Sometimes long forgings or tools are straightened in this department if inspection shows them not to be quite true.

**INSPECTION-DEPARTMENT HAZARDS.**—Relatively small, except for minor cuts and bruises in handling the material.

**MINORS EMPLOYED.**—While only 14 minors—all boys—were working as final inspectors, 213 boys and 83 girls were doing other kinds of inspection work.

#### **Inspector.<sup>42</sup>**

*Description of work.*—A simple kind of inspection work is illustrated by the work of a girl in one of the pressed-steel plants, whose duty it was to look over small sheet-metal parts and count them after they came from the shop and before they went to the stock room. The inspector sat at a bench with high board sides where the parts to be inspected were dumped. She passed the parts rapidly through her hands, counting the perfect ones and dropping them in a box, and throwing the culls on a pile of scrap.

*Hazards or strains.*—Only general factory hazards are involved. The work requires close attention and is monotonous. Some eye-strain.

*Requirements.*—The worker had to be able to count and to recognize flaws, cracks, or misshapen parts.

*Learning period.*—Generally one to two weeks; a month or six weeks to become proficient at simple kinds of inspection.

#### **Body inspector.<sup>42</sup>**

*Description of work.*—The body inspector in one establishment inspected thoroughly the automobile bodies which were bought outside. He first measured up the body with special gauges to see that all important points were located accurately. He then examined the woodwork inside to see that good material had been used and that all the screws were well put in. The outside was then inspected for dents or mars that could not be covered by paint. If below the required standard, the body was rejected and sent back. If it could be repaired in the factory, the inspector sent it to the body-repair department with a tag describing the defects.

*Hazards or strains.*—Only general factory hazards are involved.

*Requirements.*—This worker should be familiar with the specifications for the bodies he handles and have a knowledge of the wood and metal used in their construction.

*Learning period.*—Two weeks; six weeks to become proficient.

<sup>42</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Inspectors—Other.



### THE ASSEMBLY DEPARTMENT.

**WORK DONE.**—After parts are finished they must be assembled. In factories producing only simple parts no assembly is necessary, but in those producing a finished machine, automobile, or engine, assembly is likely to be one of the most important parts of the work. In one of the automobile factories visited practically all the parts of the car with the exception of the engine were purchased outside, and the factory was little more than a large assembly plant.

First is the work of subassembly, which consists of putting together small parts such as front axles, rear axles, transmissions, steering gear, governors, etc. The subassemblies are then put together to make the finished machine. In automobile factories the frame is put on a slowly moving conveyor and as the partly finished car moves past him each worker does one particular piece of work on it. Several departments may be organized for various kinds of assembly work—such as subassembly, engine erecting, outfit assembly, and final assembly.

**ASSEMBLY-DEPARTMENT HAZARDS OR STRAINS.**—Minor cuts and bruises.

**MINORS EMPLOYED.**—In all, 231 minors (196 boys and 35 girls) were working as assemblers; of these, 64 were motor, final, or outfit assemblers; 32 were body assemblers, and 135 were doing other kinds of assembly work.

**ASSEMBLY-DEPARTMENT REQUIREMENTS.**—Most of the employers interviewed preferred eighth-grade graduates; one specified seventh or eighth grade, and three did not require so much education. Though a few employed assemblers 16 years of age, most wanted boys or girls of 18 years or over. Experience as trucker, stock boy, or messenger is valuable.

#### **Brake-band assembler.<sup>44</sup>**

*Description of work.*—The work of a boy who was assembling automobile brake bands is illustrative of one of the simpler types of assembly. The brake band is a piece of band iron, about  $2\frac{1}{2}$  inches wide and one-eighth of an inch thick, in the shape of a circle about 14 inches in diameter. It is provided with small rivet holes, countersunk on the inside of the band. The brake-band lining fits around the outside of this brake band. The rivet holes are punched through the lining and copper rivets put in by a machine so constructed that a small plunger slipping down through the hole in the band cuts a corresponding hole in the lining; then the rivet comes up in place and is pressed through both holes. The entire operation took place as the operator held the band and lining together under the plunger of the machine and first pressed down on the foot lever and

<sup>44</sup> For earnings, see Table 7, p. 15, where this occupation is classified under Assemblers—Other.

then released it. About 12 rivets were put in each band. After the operator had put the rivets in several brake bands, he took them to the power-driven riveting machine, placed each rivet in turn on the center of the table of the machine, and pressed down on a foot lever. A small plunger, actuated by a cam, beat on the head of the rivet with blows in rapid succession, thus battering it down smooth. The time necessary for both operations on one brake band was about one minute.

*Hazards or strains.*—Hazard in this occupation is slight.

*Requirements.*—While the job is a simple one workers are preferred who have had experience as assemblers. (See also Assembly-department requirements.)

*Learning period.*—A month to become proficient.

### **Final assembler.<sup>45</sup>**

*Description of work.*—One type of final assembly is illustrated by the work of an assembler in an automobile factory who was putting the wiring harnesses (wires for the electrical connections) in place on the chassis of the car and making the proper connections. The wires came to him already assembled, with terminal clips and with the flexible cable covering where necessary, so that all that was left for him to do was to put them in place, secure them to the frame with steel clips, and connect the terminal clips in their proper places.

*Hazards or strains.*—Little hazard involved.

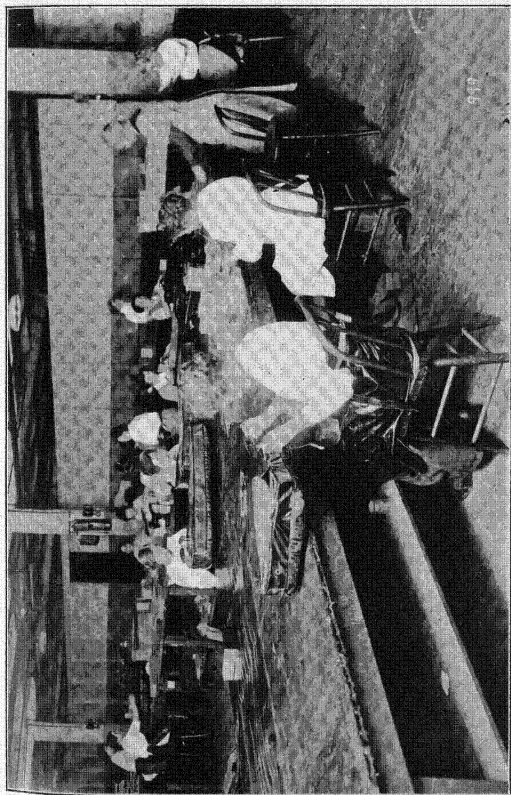
*Requirements.*—See Assembly-department requirements.

*Learning period.*—A week to a month to become proficient.

### **Gasoline-engine erector.<sup>45</sup>**

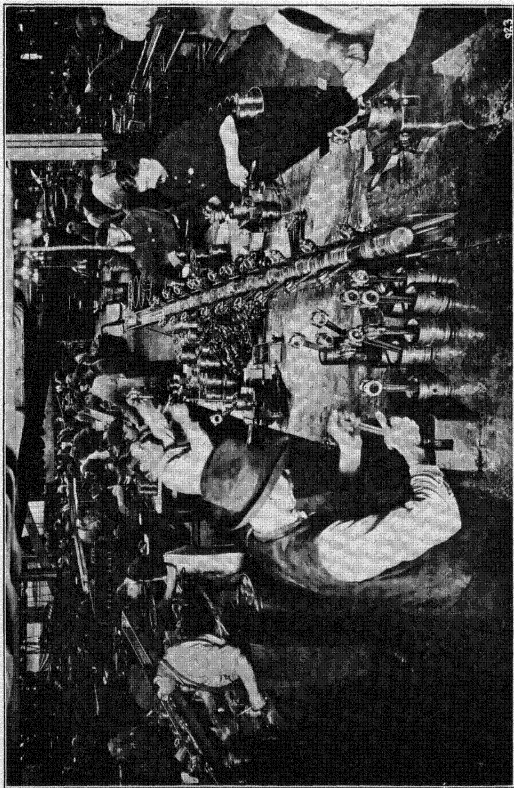
*Description of work.*—In one factory which produced gasoline engines for general utility work the assembly (or erection) of gasoline engines was done by two erectors working together. They first slipped the shafts of the subassemblies (the valve-lifting lever assembly, the timing-lever assembly, and the brake-latch assembly) into reamed holes in the engine base and secured them in place by set screws through the bosses which held them. They next attached the gas pipe with two cap screws and screwed the brass tube with its fitting into the base. A pipe plug was screwed into the opening for filling the base with gasoline. The exhaust to the muffler nipple was screwed into place. The connecting rod was bolted to the crank shaft, the carburetor put on, the priming apparatus screwed in place on the side of the cylinder, and the lubricator pipe, which oils the piston, screwed into the side of the cylinder. The cylinder was lifted

<sup>45</sup> For earnings, see Table 7, p. 15, where this occupation is classified under Assemblers—Motor, final, and outfit.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XVIII.—TRIM SHOP, CUSHION-MAKING DEPARTMENT. BENCH WORK.



PUBLISHED BY COURTESY OF FORD MOTOR CO., DETROIT, MICH.

PLATE XIX.—PISTON AND CONNECTING-ROD ASSEMBLY. BENCH WORK.

slightly while a cylinder flange gasket was inserted between the flanges of the cylinder and the base. The cylinder was then securely fastened to the base with four large cap screws. Next the breather was put on, two grease cups and the valves and valve cages screwed into place, and the hand-hole cover put on. After everything was assembled, the engine was tested for electrical contacts by means of wires from a storage battery. This completed the operation, which required about  $1\frac{1}{2}$  hours.

*Hazards or strains.*—Minor accidents, such as bruises and scratches.

*Requirements.*—The workers had to know how to put the parts together and understand something of the working of the engine. Boys of 20 or over were preferred. (See also Assembly-department requirements.)

*Learning period.*—Several weeks; proficiency gained in three months.

### Outfit assembler.<sup>47</sup>

*Description of work.*—The outfit assembler in the same factory was mounting a 3-horsepower stationary gasoline engine and a double-acting horizontal water force pump on a common base. He put the pump on the base in the proper position and marked the location of four pump bolt holes. He then took the pump off the base, put the base on a small truck, and hauled it to the drill press, where he drilled the bolt holes. Next he took the base back to his bench, set the pump in place again, and put in two of the bolts. Then he set the engine on the base in the proper location, lining it up in such a way that the connecting rod of the engine was in exact line with the piston rod of the pump and that the wrist pin on the back gears of the engine would be farthest from the pump when the piston rod of the pump was out to the end of the travel of the piston. He marked the location of the engine bolts in the base and also in the short sub-base which supported one side of the engine, and drilled the holes in both. After taking the base and sub-base back to the bench again, he bolted the pump and engine securely to them and babbitted the connecting-rod bearing on the wrist pin of the engine back gear. The time of the complete operation was  $3\frac{1}{2}$  hours.

*Hazards or strains.*—Bruises, scratches, and small cuts. Some hazard is involved in operating the drill press.

*Requirements.*—See Assembly-department requirements.

*Learning period.*—One week. One employer promoted factory stockmen or truckers to this job.

<sup>47</sup> For earnings, see Table 7, p. 15, where this occupation is classified under Assemblers—Motor, final, and outfit.

**THE TESTING, ADJUSTMENT, AND FINAL-REPAIR DEPARTMENT.**

**WORK DONE.**—In factories producing finished machines, each one is tested and inspected before shipment to see that all parts are in working order and that the necessary final adjustments and repairs have been made. In automobile factories the engine is tested before it is mounted on the frame and the car is tested after it is completely assembled.

**MINORS EMPLOYED.**—Thirty-eight minors were reported as testers, 14 as adjusters, and 97 as repair men. Some of the last may not have been doing final repair work; they may have been employed in other departments.

**Rear-axle final adjuster.<sup>48</sup>**

*Description of work.*—The work of the rear-axle final adjusters in one of the automobile factories visited was to adjust the rear axle drive pinion to the differential drive gear so that they would run as quietly and smoothly as possible under conditions varying from no load to full load. Two operators worked together, one to take care of the electric switchboard, the other to adjust the position of the drive pinion. In place of the rear wheels, the axle to be tested was provided with two pulleys, equal in diameter to the diameter of the tires used. Belts to run on these pulleys were suspended from pulleys on a shaft near the ceiling which was connected with an electric generator. The axle was driven by an electric motor through a propeller shaft and the transmission regularly used on that type of car, thus providing the same condition of drive as found on the finished automobile. The adjusters drew the rear axle over to the test rack on a small truck, slipped the drive belts on the axle pulleys, and swung the axle, supported by the belts, to the testing rack. They attached the propeller shaft to the transmission and clamped the axle securely in the rack. The switchboard man shifted the transmission gears into low speed by a lever and started the motor, running it slowly at first but gradually speeding it up. The man at the axle adjusted the gears at the place of smoothest running by tightening or loosening an adjusting collar with a wrench. The other worker then shifted the transmission to high speed and put a load on the ceiling generator by slowly turning on lamps which caused resistance in the circuit. As the speed and load increased, the second operator adjusted the drive pinion to the position of smoothest running for all conditions. The time of the complete operation was about 10 minutes.

*Hazards or strains.*—Slight hazard involved.

---

<sup>48</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Adjusters.

*Requirements.*—Preference is given to workers who have had experience in other kinds of assembly work. Eighth-grade graduates are preferred. Boys under 18 are too immature for the work.

*Learning period.*—One month to become proficient.

### Brake and cable adjuster.<sup>49</sup>

*Description of work.*—The brake and cable adjuster in the same factory adjusted the brakes and the brake cables so as to get the proper pressure of the brake-band lining on the brake drum. On each end of the rear axle there are two shafts, one running through the inside of the other, which actuate the service and emergency brakes. Each shaft is controlled by a lever about 4 inches long. Four brake cables run from these levers to the brake-rack shaft levers, which are fastened to shafts on the center cross member of the frame, and from which one cable runs to the foot service-brake pedal and one to the emergency hand lever. It was the duty of the adjuster to set the adjustment on the brakes and also to adjust the length of the cables (which have adjustment blocks on one end) so that at the right time and at the proper pressure the brakes would respond to control through the foot service brake and the emergency hand lever.

*Hazards or strains.*—Little hazard involved. Since this work was done after the body had been put on the car it was necessary for the worker to get under the car to make the adjustments.

*Requirements.*—Similar to those for rear-axle adjusters.

*Learning period.*—One month to become proficient.

### Tester.<sup>50</sup>

*Description of work.*—A tester in one plant was testing a stationary 3-horsepower gasoline engine and adjusting it to operate properly. The engines were brought from the erecting room into the testing room on a truck, lifted by means of a hoist to the test stand and bolted down. They were of the hopper cooling type, in which an open hopper is integral with the cylinder casting which holds the water for cooling the cylinder. The tester first screwed a spark plug in place and connected it with an electric current by attaching the two wires provided for the purpose. He revolved the shaft of the engine several times, watching closely and adjusting until good electrical contacts were made. He then oiled the engine thoroughly and cranked it for starting. At first the engine coughed and snorted when cranked but did not go of itself. The tester adjusted the carburetor and cranked again; the engine ran, but not smoothly. He again adjusted the carburetor and made adjustments in the governor regulator until the engine ran very smoothly. The water hopper was then filled with water and the engine allowed to run for

<sup>49</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Adjusters.

<sup>50</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Testers.

several hours. The tester examined it occasionally to see that it did not heat excessively.

*Hazards or strains.*—Testers were liable to injury to wrists when cranking the engine. They also breathed fumes all day from the engine exhaust pipes. The test room was provided with an exhaust system made up of pipes running under the floor from all the test stands to a large motor-driven suction fan which drew the exhaust gas from the engines and forced it up through a large smokestack, but while this system was good, many of the engines were not connected with it and were exhausting into the room. It required several minutes to become accustomed to the fumes so that one could remain without feeling stifled in this room where about 200 engines, ranging from 3 to 12 horsepower, were being tested.

*Requirements.*—Most employers considered this a skilled job and preferred eighth-grade graduates. A thorough knowledge of the principles and methods of operating gasoline engines was necessary, as well as some knowledge of electricity.

*Learning period.*—The employer in this factory, as well as those in the automobile factories visited, estimated that it might take from six months to a year for a tester to attain proficiency.

### **Motor-block tester.<sup>51</sup>**

*Description of work.*—The motor-block tester observed in an automobile factory ran the engine before it was mounted on the chassis, in order to wear its bearings down smooth and test it for defects that might appear under conditions of load. The motor was brought in on a special truck from the motor-assembling department and slid from the truck directly to the test frame. The worker bolted the motor securely in place, connected the drive coupling between the engine and the electric generator, attached the water-inlet and outlet hoses, which supplied water to the engine for cooling, and bolted on the intake manifold connected with the gas supply. The engine was first run by the electric motor, the tester throwing a switch on the switchboard to start it. He regulated the speed of the electric motor by turning the pointer of a field rheostat on the switchboard, starting the engine slowly and gradually increasing the speed, in order that bearings or moving parts which fitted too tightly might not heat up excessively. After about 45 minutes he turned on the gas and started the engine, throwing out the electric motor switch and throwing in another, which caused the engine to drive the motor as a generator. More load was put on the generator from time to time until the engine was pulling full load. The tester watched the engine closely for excessive heating of the bearings or cylinders, noisy drive gears,

---

<sup>51</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Testers.



leaky crank case or leaky inlet or outlet castings, undue vibration caused by unbalanced flywheel, or other evidence of defects.

*Hazards or strains.*—The testing room was filled with gas from the engine exhaust pipes and was very noisy on account of the incessant explosions.

*Requirements.*—This worker should have a common-school education and must know the construction and principles of operation of an automobile motor.

*Learning period.*—About three months; four months to become proficient.

### **Final-test driver.<sup>52</sup>**

*Description of work.*—The work of the final-test driver in one of the automobile factories visited was to drive the car around the city for the purpose of finding any defect in it. If he found no defects, he put a card on the car marked "O. K." If there were any faults, he specified them on a card and sent the car back to the final-repair department. The following are some of the defects which the final tester might discover: Noisy differential gears; noisy transmission gears; knock in the engine; heating up of the engine; carburetor out of adjustment; brakes not properly adjusted.

*Hazards or strain.*—The hazard is that incident to driving an untried car in the city streets.

*Requirements.*—Most employers considered this a skilled job and preferred eighth-grade graduates. Knowledge of the construction and operation of the car is necessary, together with ability to detect the different sounds and actions of the running car and recognize their meaning.

*Learning period.*—Three months; a year to become proficient.

### **Rear-axle repair man.<sup>53</sup>**

*Description of work.*—The rear-axle repair man in an automobile factory had the work of repairing axles just assembled or being assembled in which defects were discovered. For example, the assembler might find the brake-band pin too short; the axle inspector, when the assembled axle reached him, might discover a lock washer or some other part missing; or the final tester might find gears that were unusually noisy. In all such cases the axle would be sent to the repair department. The repair man had to be so familiar with the construction of the axle that he could tear down any part and rebuild it.

*Hazards or strains.*—Only general factory hazards are involved.

<sup>52</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Testers.

<sup>53</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Repair.

*Requirements.*—One employer required merely a sixth-grade education; others preferred eighth grade. Only boys 18 or over were employed. Any shop training or experience was considered valuable.

*Learning period.*—Six months; 10 months to become proficient.

#### **Automobile-motor repair man.<sup>54</sup>**

*Description of work.*—If in the final-testing department any defect is found in a motor which can not easily be remedied there, the motor is sent to the motor-repair department to be put in order. The repair man must be able to tear down and reassemble the whole or any part of the motor and to repair or replace any defective part. If a part is beyond repair, it is taken out and a new one put in its place. The worker may find it necessary to repair parts such as the following: Scored crank shaft and connecting-rod bearings; stripped cam gears and pump gears; scored piston and cylinder; noisy drive gears; cracked crank case; sprung cam shaft; unbalanced flywheel; leaky water outlet and inlet castings.

*Hazards or strains.*—Minor injuries such as bruises, scratches, or cuts on the hands.

*Requirements.*—Some knowledge of mechanical work and of the handling and use of tools. Thorough knowledge of the assembly of the automobile motor.

*Learning period.*—Six months; a year to become proficient.

#### **Final general car repairer.<sup>54</sup>**

*Description of work.*—As the car moves down the final-assembly line some processes through oversight in rapid working may be left undone, some parts through carelessness may not be put together correctly, or there may be a flaw in some part that was not noticed by the man who attached it. At the end of the line the car is given a thorough inspection, and if it does not pass this inspection a red tag stating the trouble is attached to it and it is sent to the final-repair department. It is the final-repair man's work to find the cause of the trouble, make the necessary repairs, and turn in the card with his signature. The following are some of the troubles found: Fender bolts loose or lacking; body bolts out because holes in body and frame do not line up; defective wiring such as wrong or loose connections, etc.; hood not fitting properly; gasoline tank leaking; ventilating fan striking.

*Hazards or strains.*—Risk of pounding, scratching, and cutting hands.

*Requirements.*—Some knowledge of the construction of the car.

*Learning period.*—Three to 6 months; 6 to 10 months to become proficient.

---

<sup>54</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Machinists—Repair.

## OTHER DEPARTMENTS.

The receiving department, where material for use in the factory is received and checked in; the stock room, where material is stored ready for use; the tool crib, where tools are kept to be given out to the workmen, and the shipping department, while not strictly production departments, are necessary parts of the factory organization. About one-tenth of all the minors (270 boys and 18 girls) were working in the stock rooms and tool cribs. In two factories the stock room was considered especially dangerous because of the many accidents occurring from falling stock. The safety engineer in one establishment said that such accidents should be obviated by careful piling of stock and special care in handling.

Maintenance departments were sometimes organized to attend to the proper upkeep of the factory. Carpenters, electricians, millwrights, oilers, tinnerns, pipe fitters, and other workers were sent from this department to any part of the factory when they were needed. These occupations were so highly skilled that few minors were employed.

Truckers, drivers, and messengers might be found in any department. In the factories surveyed, 202 minors were truckers and drivers and 14 were messengers.

**Stock-room man.<sup>56</sup>**

*Description of work.*—In one establishment when an order for parts came into the stock room, the stock-room foreman made out a list called a "pick-up sheet," giving the symbols of each part required. He gave this sheet to a stock-room man, whose duty it was to fill the order as completely as possible, leaving the missing parts unchecked on the sheet. The foreman recorded these parts on a "shortage card" which he sent to the stock chaser. The stock man also put new stock into the bins.

*Hazards or strains.*—Some danger of falling while climbing from one bin to another.

*Requirements.*—This worker must be able to memorize symbols of parts, and must use care in putting stock into the bins and taking it from them.

*Learning period.*—About one day; one month to one year to become proficient.

**Stock chaser.<sup>57</sup>**

*Description of work.*—The stock chaser in one establishment visited had to see that raw stock was moved to the machine shop as rapidly

<sup>56</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Stock and tool-crib workers—Other.

<sup>57</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Stock and tool-crib workers—Stock chaser.

as needed; that work was moved from one machine to another; that finished work was taken to the stock room and that stock from the stock room was moved to the erecting department as fast as it was needed. In other words it was his work to see that everyone had at hand sufficient stock with which to proceed. If an order came into the stock room and there was not enough stock in the department to fill it, all on hand was sent and a "shortage card," showing the parts lacking, was made out for the stock chaser; it then became his business to see that this stock reached the erecting department as soon as possible.

*Hazards or strains.*—The work involves general factory hazards.

*Requirements.*—The stock chaser should know the location of all stock, machines, and departments, and should know how the work is routed through the shop. Most employers preferred applicants who had at least an eighth-grade education.

*Learning period.*—One day to one month; three months to one year to become proficient.

### **Electric trucker.<sup>58</sup>**

*Description of work.*—The work of an electric trucker in one establishment was to haul loads of stock from one department to another. The stock was loaded onto trucks by truck fillers and unloaded by laborers. When the trucks were loaded, from one to five were connected and attached to the electric truck. In operating this truck the driver stood on a ledge on the front, changing the speed by use of a foot lever and steering with a hand tiller. Many different forms of trucks are used.

*Hazards or strains.*—Some danger of accident from collision while driving the truck through the factory.

*Requirements.*—Not much education is necessary. The trucker must be familiar with the location of the departments served and able to drive and control the electric truck.

*Learning period.*—About a day; one week or less to gain proficiency.

### **Messenger.<sup>59</sup>**

*Description of work.*—The messenger or bell-hop in the bench-work department of the tool room of one of the automobile factories surveyed carried notes, small tools, etc., from the tool room to other departments of the shop and cleaned up the machines in the tool bench-work department for about two hours on Saturday forenoons.

*Hazards or strains.*—Only general factory hazards.

<sup>58</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Truckers.

<sup>59</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Laborers and helpers—Messengers.

*Requirements.*—Sixth or eighth grade education required. The worker must know the location of different departments in the factory.

*Learning period.*—One hour; proficiency gained in one week.

### **Oiler.<sup>60</sup>**

*Description of work.*—The work of the oiler in an automobile factory was to oil the bearings of the countershafts for driving machines every day and to fill the grease cups on the main-line shafts once every three weeks. Since the countershafts were located just under the ceiling, it was necessary for the oiler to use a ladder to reach them. Each oiler was given a section of the factory, which would furnish enough work to keep him busy for the day, and each day he went over this ground. He poured the oil into the bearing boxes from a long-spouted oil can and put the hard grease in the grease cups with a wooden paddle.

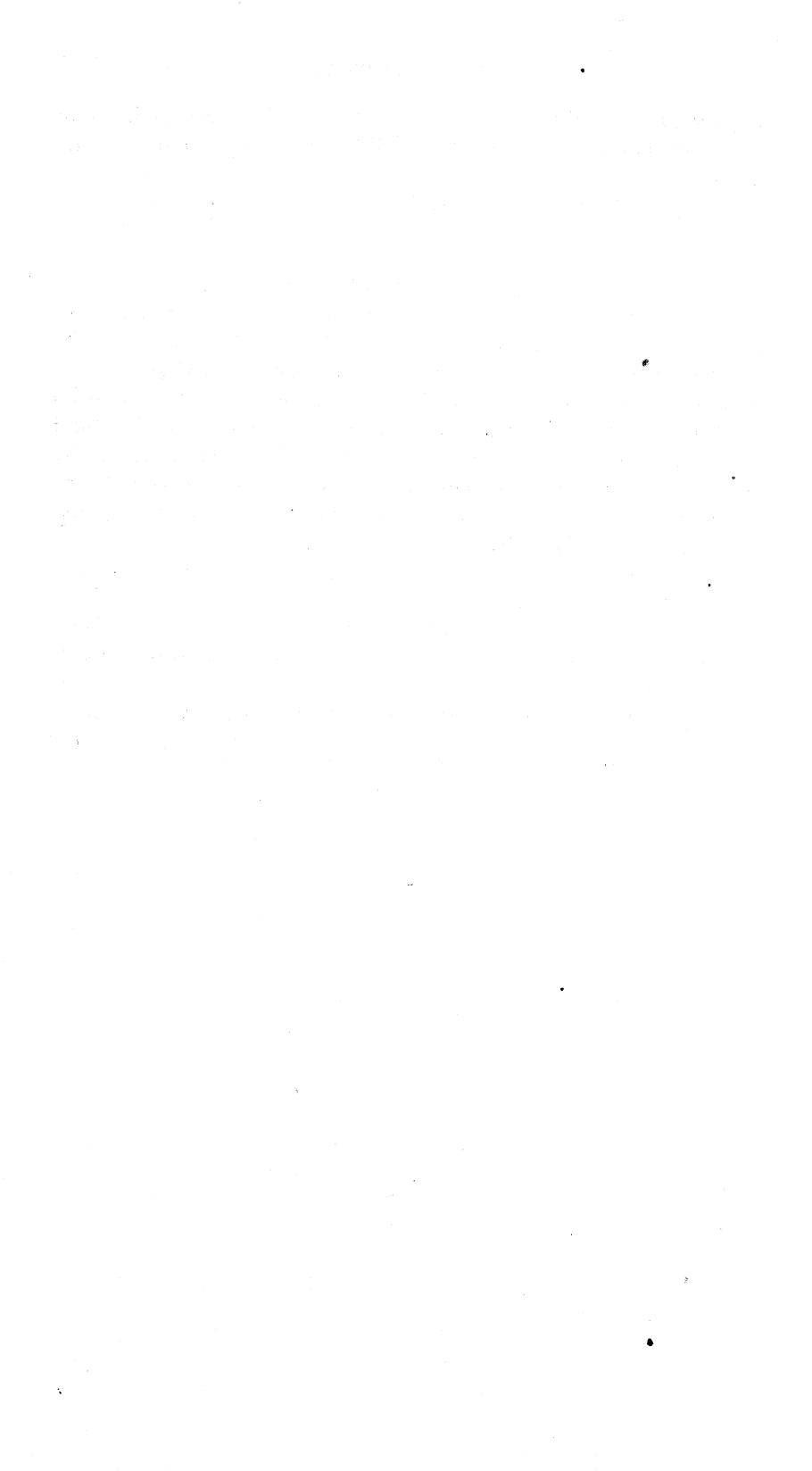
*Hazards or strains.*—Danger from falling against or touching the moving machinery.

*Requirements.*—Boys of at least 18 were usually preferred. Only two employers required an eighth-grade education; the others made no educational requirement.

*Learning period.*—A few days to one month to become proficient.

---

<sup>60</sup> For earnings, see Table 7, p. 16, where this occupation is classified under Oilers.



## APPENDIX II.—FORMS USED IN THE SURVEY.

FORM 1.—*Form used to secure information from employment managers concerning occupations.*

[Size: 10½ by 8 inches.]

### U. S. DEPARTMENT OF LABOR CHILDREN'S BUREAU

Ind. .... Estab. .... Occup. ....

1. Requirements for admission to occupation: .....

(a) Sex: ..... Why? .....

(b) Age: M. .... F. .... Why? .....

(c) Physical: .....

(d) Mental: .....

(e) Character: .....

(f) Schooling: (1) General, N. ....

(2) Vocational, N. ....

(g) Shop training or experience, N. ....

(1) Apprenticeship, N. ....

(2) Factory school, N. ....

(3) Experience in other occupation, N. ....

2. Previous training and experience employer considers desirable if obtainable: ....

3. Method of training for occupation in plant: .....

4. Length of time takes average worker: (a) To learn job..... (b) To become

proficient at job..... (c) To earn maximum wage .....

5. Apprenticeship system, N. (a) Length..... (b) Sex..... (c) Age....

(d) Wage: .....

(e) Training: .....

6. Usual line of promotion: .....

(a) Training necessary for promotion.....

(b) How necessary training can be secured.....

7. Turnover: .....

8. Hazard: N. (a) from disease, N. ....

(b) Accident, N. ....

(c) Safety appliances, N. ....

(Agent.)

(Date.)

(Informant.)

## FORM 2.—Questionnaire.

(FACE.)

INDUSTRY

## U. S. DEPARTMENT OF LABOR

FACTORY

OCCUPATION

## CHILDREN'S BUREAU

DEPT.

Kindly answer the following questions as soon as possible, and return this card in the attached envelope to the factory office, where it will be called for by a representative of the United States Department of Labor.

The information furnished by you will be used only for the purpose of showing the kind of work persons under 21 are doing in your industry, and will be regarded as strictly confidential.

Do not  
write  
in this  
space.

1. Name? ..... 2. Address? ..... 3. Sex? ..... 4. Age? .....
5. In what country were you born? ..... What State? ..... What town? .....
6. In what country was your father born? ..... 7. What was his trade? .....
8. At what age did you stop going regularly to day school? ..... years.
9. What grade had you finished? .....
10. In what town or county did you last go regularly to day school? ..... Name of school?....
11. Did you have any trade training in day school? ..... 12. If so, state courses and length of each:.....
13. At what age did you go to work? ..... years. 14. How long have you worked in the ..... industry?
15. What particular kind of work are you now doing? .....
16. How long have you done this kind of work (including apprenticeship)? .....
17. How did you learn to do this kind of work? .....
18. How long did it take you to learn? .....
19. Have you ever served a regular apprenticeship? ..... How long? ..... What trade? ....
20. Have you ever taken any trade training courses since leaving school? ..... If so, please state what kind, how long, and where given: .....

(OVER)

(REVERSE.)

21. Please list below all the positions you have held since first going to work, beginning with the first, and stating the kind of work done, the length of time employed, and the wages received:

POSITION.	NAME OF FIRM.	BUSINESS.	WHAT WAS YOUR JOB.	DATE OF BEGINNING WORK.	TIME EMPLOYED.	AVERAGE WEEKLY WAGE.
1st...						
2d...						
3d...						
4th...						
5th...						
6th...						

22. Did you ever have any accidents while working at your present trade? ..... If so, please state the nature of each accident, the number of weeks it kept you away from work, the date of the accident, and whether or not you received any compensation:

Do not  
write  
in this  
space.

(OVER)



## Employees in metal-manufacturing industries.

Occupation.	Total.	Adult.	Minor.		Automobile.				Automobile parts.				Foundry and machine shop.				Other.			
			Num-ber.	Per-cent. <sup>1</sup>	Total.	Adult.	Minor.	Total.	Adult.	Minor.	Total.	Adult.	Minor.	Total.	Adult.	Minor.				
			22,780	10.6	14,455	12,919	1,536	10.6	4,068	3,697	371	9.1	4,724	4,164	560	11.9	2,945	313	10.6	
Total.....	26,192	23,412																		
Apprentices.....	606	414	192	31.7	241	161	80	33.2	169	142	27	16.0	189	108	81	42.9	7	3	4	
Assemblers.....	2,095	1,877	210	10.4	1,551	1,415	136	8.8	224	209	15	6.7	194	168	26	13.4	126	85	41	
Inspectors.....	2,088	1,778	318	14.8	1,519	1,292	227	14.9	369	331	38	10.3	96	69	27	27.7	104	86	18	
Laborers and helpers.....	4,833	4,251	582	12.0	3,892	3,521	371	15.6	830	746	84	10.1	1,510	1,361	146	9.7	691	620	71	
Foundry and core room.....	475	370	105	22.1	73	72	1	100	10	10	0	0	355	263	90	25.4	37	23	14	
Truckers and drivers.....	1,126	925	201	17.9	650	502	148	22.8	255	217	38	14.9	174	165	9	5.2	47	41	6	
Other.....	3,232	2,956	276	8.5	1,979	1,947	332	12.2	565	519	46	8.1	981	934	47	4.8	607	556	51	
Machine operators.....	5,832	5,287	595	10.1	3,461	3,169	292	8.4	1,057	967	90	8.5	843	701	142	16.8	521	450	71	
Drills.....	1,272	1,149	123	9.7	847	785	62	7.3	296	267	29	9.8	69	48	21	29.9	60	49	11	
Grinders.....	1,000	1,005	95	8.6	722	664	58	8.0	167	152	15	9.0	184	165	19	10.3	27	24	3	
Milling.....	476	387	89	18.7	265	233	32	12.1	95	84	11	11.1	95	54	41	43.2	21	16	5	
Lathe.....	885	787	137	15.5	455	420	35	7.7	144	130	14	9.7	156	124	32	20.5	130	113	17	
Other.....	2,149	1,959	190	8.8	1,172	1,067	105	9.0	355	334	21	5.9	339	310	29	8.6	283	248	35	
Skilled workers.....	5,792	5,499	293	5.1	3,237	3,060	177	5.5	709	666	43	6.1	1,223	1,174	49	4.0	623	599	24	
Machinists, testers, and repairers.....	2,385	2,224	161	6.8	1,531	1,414	117	7.6	305	284	21	3.6	386	317	69	5.7	213	199	14	
Other metal.....	2,650	2,550	105	4.0	1,014	976	38	3.7	383	351	32	8.4	862	836	26	3.0	396	387	9	
Painters.....	752	725	27	3.6	692	670	22	3.2	21	21	0	0	25	21	4	4.4	14	13	1	
Stock and tool-crib workers.....	1,037	769	288	27.2	703	513	190	27.0	208	159	49	23.6	110	76	34	30.9	36	21	15	
Other occupations.....	3,839	3,537	302	7.9	1,941	1,788	153	7.9	502	477	25	5.0	559	504	55	9.8	837	768	69	
Core makers.....	182	131	31	17.0	563	464	99	17.6	10	8	2	4.7	377	28	6.9	1	1	1	65	
Trimmers.....	473	401	101	17.6	1,378	1,324	54	3.9	492	469	23	4.7	405	377	28	6.9	1	743	8.0	
Miscellaneous.....	3,083	2,913	170	5.5	1,563	1,454	109	7.0	492	469	23	4.7	405	377	28	6.9	1	743	8.0	

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Excluding minors in two factories in which information for adult workers could not be secured.

<sup>3</sup> Skilled—Other metal: Sheet metal patterners; sheet metal layout; sheet metal, other; molders; blacksmiths; boiler makers; welders; heat treat; furnacemen, heaters, ladlers, and pourers; millwrights; pattern makers; template makers; chemists; draftsman and designers; engineers; toolmaker; foreman (superintendent); pyrometer reader.

<sup>4</sup> Other—Miscellaneous: Filers; polishers and buffers; finishers; riveters; straighteners; oilers; benchworkers; picklers; miscellaneous.

GENERAL TABLE II.—Occupation, by age; minors in metal-manufacturing industries.

Minors in metal-manufacturing industries.																
Total.		Age.												Not re-ported. <sup>1</sup>		
		14 years, under 15. <sup>1</sup>		15 years, under 16. <sup>1</sup>		16 years, under 17.		17 years, under 18.		18 years, under 19.		19 years, under 20.			20 years, under 21.	
Occupation.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.
Total.....	2,840	100.0	5	20	114	100.0	198	100.0	663	100.0	903	100.0	935	100.0		2
Apprentices.....	196	6.9	.....	5	22	19.3	36	18.2	46	6.9	27	4.1	50	5.3	.....	.....
Assemblers.....	231	8.1	1	.....	9	7.9	15	7.6	41	6.2	73	8.1	92	9.8	.....	.....
Inspectors.....	310	10.9	.....	.....	10	8.8	21	10.6	81	12.2	95	10.5	103	11.9	.....	.....
Laborers and helpers.....	586	20.6	2	6	23	20.2	41	20.7	162	24.4	191	21.2	161	17.2	.....	.....
Machine operators.....	619	21.8	1	.....	15	13.2	27	13.6	122	18.4	214	23.7	237	25.3	1	.....
Drills.....	123	4.3	.....	.....	1	.9	6	3.0	20	3.0	48	5.3	48	5.1	.....	.....
Grinders.....	99	3.5	.....	1	1	.9	1	.5	18	2.7	32	3.5	46	4.9	.....	.....
Lathe.....	98	3.5	.....	.....	2	1.8	4	2.0	22	3.3	30	3.3	40	4.3	.....	.....
Milling.....	89	3.1	.....	.....	1	.9	10	5.1	20	3.0	32	3.5	26	2.8	.....	.....
Other.....	210	7.4	1	3	10	8.8	6	3.0	42	6.3	72	8.0	77	8.2	.....	.....
Stock and tool-crib workers.....	288	10.1	1	3	15	13.2	34	17.2	72	10.9	87	9.6	76	8.1	.....	.....
All other.....	610	21.5	.....	4	20	17.5	24	12.1	139	21.0	206	22.8	216	23.1	.....	1

<sup>1</sup> Per cent distribution not shown where base is less than 100.

GENERAL TABLE III.—*Nativity and country of birth of father, by nativity of child; minors in metal-manufacturing industries.\**

Minors in metal-manufacturing industries. <sup>1</sup>						
Nativity and country of birth of father.						
Total.		Native.		Foreign born.		
Number.	Per cent distribution.	Number.	Per cent distribution.	Number.	Per cent distribution.	
292	100.0	172	100.0	120	100.0	
Native.....						
Foreign born.....						
Canada.....	1.0	172	100.0	3	2.5	
Germany.....	99	40	23.3	117	97.5	
United Kingdom.....	19.9	45	26.2	18	15.0	
Poland.....	17.8	15	8.7	7	5.8	
Austria-Hungary.....	14.7	25	14.5	28	23.3	
Russia.....	11.6	15	8.7	9	7.5	
Italy.....	10.6	12	7.0	16	13.3	
Scandinavia.....	6.5	3	1.7	7	5.8	
France.....	4.5	11	6.4	10	8.3	
All other.....	3.8	3	1.7	2	1.7	
	7.9	3	1.7	20	16.7	

<sup>1</sup> Questionnaire group.<sup>2</sup> Information as to country of birth of father not secured for 621 minors.

GENERAL TABLE IV.—*Number of hours worked per week, by age and sex; minors in metal-manufacturing industries.*

Minors in metal-manufacturing industries.															
Total.			Age.										20 years, under 21.	Not re-ported. <sup>1</sup>	
			14 years, under 15. <sup>1</sup>		15 years, under 16. <sup>1</sup>		16 years, under 17.		17 years, under 18.		18 years, under 19.				19 years, under 20.
Num-ber.	Per cent distri-bution.				Num-ber.	Per cent distri-bution. <sup>1</sup>	Num-ber.	Per cent distri-bution. <sup>1</sup>	Num-ber.	Per cent distri-bution. <sup>1</sup>	Num-ber.	Per cent distri-bution. <sup>1</sup>	Num-ber.	Per cent distri-bution. <sup>1</sup>	
2,840	100.0		5	20	114	100.0	198	100.0	663	100.0	903	100.0	935	100.0	2
Total.....															
Less than 36 hours.....															
36 hours, less than 39.....															
39 hours, less than 42.....															
42 hours, less than 45.....															
45 hours, less than 48.....															
48 hours, less than 51.....															
51 hours, less than 54.....															
54 hours.....															
Over 54 hours, less than 57.....															
57 hours, less than 60.....															
60 hours and over.....															
Not on pay roll and not reported.....															
Boys.....															
Less than 36 hours.....															
36 hours, less than 39.....															
39 hours, less than 42.....															
42 hours, less than 45.....															
45 hours, less than 48.....															
48 hours, less than 51.....															
51 hours, less than 54.....															
54 hours.....															
Over 54 hours, less than 57.....															
57 hours, less than 60.....															
60 hours and over.....															
Not on pay roll and not reported.....															

Girls	304	100.0	1	6	27	101	100.0	94	75	
Less than 36 hours.....	55	18.1		1		18	17.8	24	10	
36 hours, less than 39.....	13	4.3			2	2	2.0	8	3	
39 hours, less than 42.....	28	9.2			6	11	10.9	5	6	
42 hours, less than 45.....	47	15.5		1	3	12	11.9	18	13	
45 hours, less than 48.....	39	12.8	1		4	14	13.9	11	9	
48 hours, less than 51.....	38	12.5		1	2	12	11.9	11	12	
51 hours, less than 54.....	16	5.3		2	4	4	4.0	3	3	
54 hours.....	5	1.6			1	1	1.0	1	1	
Over 54 hours, less than 57.....	11	3.6			1	9	8.9	2	2	
57 hours, less than 60.....	1	.3						1		
60 hours and over.....	2	.7		1	1					
Not on pay roll and not reported.....	249	16.1			4	18	17.8	10	17	

<sup>1</sup> Per cent distribution not shown where base is less than 100.

<sup>2</sup> Includes 619 minors (572 boys and 47 girls) whose names did not appear on pay roll and 9 minors (7 boys and 2 girls) for whom number of hours per week was not reported.

GENERAL TABLE V.—*Number of hours worked per week, by method of payment; minors in metal-manufacturing industries.*<sup>1</sup>

Number of hours worked per week.	Minors in metal-manufacturing industries. <sup>1</sup>							
	Total.		Method of payment.					
			Time.		Piece.		Not reported.	
	Num- ber.	Per cent distribu- tion.	Num- ber.	Per cent distribu- tion.	Num- ber.	Per cent distribu- tion.	Num- ber.	Per cent distribu- tion.
Total.....	913	100.0	489	100.0	304	100.0	120	100.0
Less than 36 hours.....	127	13.9	80	16.4	47	15.5	.....	.....
36 hours, less than 39.....	35	3.8	22	4.5	13	4.3	.....	.....
39 hours, less than 42.....	64	7.0	39	8.0	25	8.2	.....	.....
42 hours, less than 45.....	89	9.7	53	10.8	36	11.8	.....	.....
45 hours, less than 48.....	130	14.2	92	18.8	38	12.5	.....	.....
48 hours, less than 51.....	140	15.3	103	21.1	37	12.2	.....	.....
51 hours, less than 54.....	52	5.7	28	5.7	24	7.9	.....	.....
54 hours.....	10	1.1	5	1.0	5	1.6	.....	.....
Over 54 hours, less than 57.....	38	4.2	27	5.5	11	3.6	.....	.....
57 hours, less than 60.....	32	3.5	16	3.3	15	4.9	1	0.8
60 hours and over.....	76	8.3	24	4.9	52	17.1	.....	.....
Not reported.....	120	13.1	.....	.....	1	.3	119	99.2

<sup>1</sup> Questionnaire group.GENERAL TABLE VI.—*Earnings per week, by sex; minors in metal-manufacturing industries.*<sup>1</sup>

Earnings per week.	Minors in metal-manufacturing industries. <sup>1</sup>					
	Total.		Boys.		Girls.	
	Num- ber.	Per cent distribu- tion.	Num- ber.	Per cent distribu- tion.	Num- ber.	Per cent distribu- tion.
	913	.....	818	.....	95	.....
Total.....	913	.....	818	.....	95	.....
Total reporting.....	793	100.0	704	100.0	89	100.0
Less than \$5.....	18	2.3	15	2.1	3	3.4
\$5, less than \$10.....	24	3.0	18	2.6	6	6.7
\$10, less than \$15.....	44	5.5	31	4.4	13	14.6
\$15, less than \$20.....	73	9.2	38	5.4	35	39.3
\$20, less than \$25.....	112	14.1	95	13.5	17	19.1
\$25, less than \$30.....	149	18.8	142	20.2	7	7.9
\$30, less than \$35.....	135	17.0	129	18.3	6	6.7
\$35, less than \$40.....	91	11.5	90	12.8	1	1.1
\$40, less than \$45.....	70	8.8	69	9.8	1	1.1
\$45, less than \$50.....	28	3.5	28	4.0	.....	.....
\$50, less than \$55.....	16	2.0	16	2.3	.....	.....
\$55, less than \$60.....	12	1.5	12	1.7	.....	.....
\$60, less than \$65.....	8	1.0	8	1.1	.....	.....
\$65, less than \$70.....	3	.4	3	.4	.....	.....
\$70, less than \$75.....	5	.6	5	.7	.....	.....
\$75 and over.....	5	.6	5	.7	.....	.....
Not reported.....	120	.....	114	.....	6	.....

<sup>1</sup> Questionnaire group.

GENERAL TABLE VII.—*Earnings per week, by number of hours per week; minors in metal-manufacturing industries.*

Number of hours worked per week.	Minors in metal-manufacturing industries—									
	Total.	Total reporting.	Reporting earnings per week.							
			Less than \$5.		\$5, less than \$10.		\$10, less than \$15.		\$15, less than \$20.	
			Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.	Num-ber.	Per-cent.
Total.....	2,840	2,191	82	3.7	109	5.0	170	7.8	238	10.9
Total reporting.....	2,212	2,182	82	3.8	109	5.0	170	7.8	235	10.8
Less than 36 hours.....	478	477	82	17.2	108	22.6	110	23.1	82	17.2
36 hours, less than 39.....	111	111			1	.9	9	8.1	23	20.7
39 hours, less than 42.....	174	174					12	6.9	22	12.6
42 hours, less than 45.....	251	251					24	9.6	28	11.2
45 hours, less than 48.....	340	331					11	3.3	33	10.0
48 hours, less than 51.....	380	361					3	.8	40	11.1
51 hours, less than 54.....	127	127					1	.8	4	3.1
54 hours.....	22	22							3	
Over 54 hours, less than 57.....	113	113								
57 hours, less than 60.....	59	59								
60 hours and over.....	157	156								
Not on pay roll and not reported.....	<sup>a</sup> 628	9							3	

Number of hours worked per week.	Minors in metal-manufacturing industries—								Not on pay roll and not reported.
	Reporting earnings per week.								
	\$20, less than \$25.		\$25, less than \$30.		\$30, less than \$35.		\$35 and over.		
	Num-ber.	Per-cent.	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	Num-ber.	Per-cent. <sup>1</sup>	
Total.....	334	15.2	423	19.3	339	15.5	496	22.6	<sup>2</sup> 649
Total reporting.....	333	15.3	423	19.4	338	15.5	492	22.5	30
Less than 36 hours.....	49	10.3	24	5.0	7	1.5	15	3.1	1
36 hours, less than 39.....	34	30.6	15	13.5	18	16.2	11	9.9	.....
39 hours, less than 42.....	45	25.9	42	24.1	26	14.9	27	15.5	.....
42 hours, less than 45.....	60	23.9	60	23.9	27	10.8	52	20.7	.....
45 hours, less than 48.....	71	21.5	100	30.2	47	14.2	69	20.8	9
48 hours, less than 51.....	51	14.1	119	33.0	78	21.6	70	19.4	19
51 hours, less than 54.....	10	7.9	30	23.6	40	31.5	42	33.1	.....
54 hours.....			4		9		6		.....
Over 54 hours, less than 57.....	12	10.6	25	22.1	41	36.3	35	31.0	.....
57 hours, less than 60.....			2		19		38		.....
60 hours and over.....	1	.6	2	1.3	26	16.7	127	81.4	1
Not on pay roll and not reported.....	1				1		4		619

<sup>1</sup> Not shown where base is less than 100.<sup>2</sup> Includes 619 minors whose names did not appear on pay roll and 30 whose earnings per week were not reported.<sup>3</sup> Includes 619 minors whose names did not appear on pay roll and 9 for whom number of hours per week was not reported.

GENERAL TABLE VIII.—*Occupation and industry of father; minors in metal-manufacturing industries.*<sup>1</sup>

Occupation and industry of father.	Minors in metal-manufacturing industries. <sup>1</sup>		Occupation and industry of father.	Minors in metal-manufacturing industries. <sup>1</sup>	
	Num-ber.	Per cent distribu-tion.		Num-ber.	Per cent distribu-tion.
Total.....	913	100.0	Manufacturing and mechanical—Continued.		
Agriculture, forestry, and animal husbandry.....	208	22.8	Laborers.....	78	8.5
Extraction of minerals.....	46	5.0	Other metal.....	5	.5
Manufacturing and mechanical.....	402	44.0	Other metal manufacturing and mechanical.....	94	10.3
Building trades.....	112	12.3	Transportation.....	41	4.5
Iron and steel.....	113	12.4	Trade.....	49	5.4
Blacksmiths, forgemmen, and hammer men.....	27	3.0	Public service.....	10	1.1
Molders, founders, and casters.....	18	2.0	Professional service.....	19	2.1
Machinists, millwrights, and toolmakers.....	40	4.4	Domestic and personal service.....	8	.9
Other.....	28	3.1	Clerical.....	12	1.3
			No occupation and not reported..	118	12.9

<sup>1</sup> Questionnaire group.GENERAL TABLE IX.—*Location of school last attended, by grade completed; minors in metal-manufacturing industries.*<sup>1</sup>

Grade completed.	Minors in metal-manufacturing industries— <sup>1</sup>											
	Total.	Who last attended school in Michigan.										Michigan, not re- ported whether city or rural.
		Total.		Michigan city in which working.		Other Michigan city.		Michigan rural.				
		Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	Num- ber.	Per cent.	
Total.....	913	528	57.8	286	31.3	199	21.8	25	2.7	18	2.0	
Sixth and lower grades.....	131	57	43.5	38	29.0	16	12.2	.....	.....	3	2.3	
Seventh grade.....	144	90	62.5	60	41.7	24	16.7	2	1.4	4	2.8	
Eighth grade.....	335	207	61.8	112	33.4	64	19.1	20	6.0	11	3.3	
First year high school.....	107	72	57.3	38	35.5	32	29.9	2	1.9	.....	.....	
Second and third year high school.....	119	70	58.8	27	22.7	42	35.3	1	.8	.....	.....	
Fourth year high school and higher education.....	46	28	.....	8	.....	20	.....	.....	.....	.....	.....	
Not reported.....	31	4	.....	3	.....	1	.....	.....	.....	.....	.....	

Grade completed.	Minors in metal-manufacturing industries—1							
	Who last attended school outside Michigan.						Place of attendance not reported.	
	City.		Rural.		Not reported whether city or rural.			
	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.	Num-ber.	Per cent.
Total.....	322	35.3	13	1.4	26	2.8	24	2.6
Sixth and lower grades.....	58	44.3	3	2.3	11	8.4	2	1.5
Seventh grade.....	45	31.3	5	3.5	4	2.8	.....	.6
Eighth grade.....	114	34.0	4	1.2	8	2.4	2	.9
First year high school.....	32	29.9	1	.9	1	.9	1	.8
Second and third year high school.....	48	40.3	.....	.....	.....	.....	1	.....
Fourth year high school and higher education.....	18	.....	.....	.....	.....	.....	.....	.....
Not reported.....	7	.....	.....	.....	2	.....	18	.....

<sup>1</sup> Questionnaire group.



Minors in metal-manufacturing industries.<sup>1</sup>

Total.		Length of work history.												7 years and over. <sup>2</sup>	Not reported.		
		Less than 1 year.		1 year, less than 2.		2 years, less than 3.		3 years, less than 4.		4 years, less than 5.		5 years, less than 6. <sup>3</sup>	6 years, less than 7. <sup>3</sup>				
				Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.					Num-ber.	Per cent distribu-tion.
Increase in weekly earnings from first to present position, and sex.		Num-ber.	Per cent distribu-tion.	122	100.0	159	100.0	217	100.0	193	100.0	123	100.0	65	15	11	8
Total.....		913	100.0														
No previous position.....		106	11.6	72	59.0	22	13.8	8	3.7	3	1.6	65	52.8	1	9	2	
Increase.....		398	43.6	25	20.5	61	38.4	106	48.8	97	50.3	2	1.6	33	1		
Less than \$5.....		32	3.5	5	4.1	9	5.7	10	4.6	5	2.6	8	6.5	4			
\$5, less than \$10.....		80	8.8	12	9.8	15	9.4	26	12.0	15	7.8	9	7.3	7			
\$10, less than \$15.....		86	9.4	4	3.3	18	11.3	25	11.5	23	11.9	16	15.4	6	2		
\$15, less than \$20.....		73	8.0	2	1.6	5	3.1	23	10.6	17	8.3	13	10.6	4	3	1	
\$20, less than \$25.....		58	6.4	1	.8	7	4.4	12	5.5	16	8.8	7	5.7	8			
\$25, less than \$30.....		42	4.6	1	.8	5	3.1	9	4.1	12	6.2	7	5.7	4	3	1	
\$30 and over.....		27	3.0	3	2.5	3	1.9	4	1.8	5	2.6	2	1.6				
Same earnings.....		12	1.3	3	2.5	3	1.9	4	1.8	5	2.6	2	1.6				
Decrease.....		23	2.5	3	2.5	8	5.0	7	3.2	88	45.6	56	45.5	31	6	9	8
Not reported.....		374	41.0	19	15.6	65	40.9	92	42.4	180	100.0	109	100.0	61	14	9	8
Boys.....		818	100.0	108	100.0	141	100.0	188	100.0	180	100.0	109	100.0	61	14	9	8
No previous position.....		90	11.0	63	58.3	19	13.5	6	3.2	2	1.1	57	52.3	31	8	2	
Increase.....		357	43.6	22	20.4	53	37.6	93	49.5	91	50.6	2	1.1	31	1		
Less than \$5.....		25	3.1	3	2.8	7	5.0	8	4.3	4	2.2	8	7.3	4			
\$5, less than \$10.....		65	7.9	11	10.2	10	7.1	19	10.1	13	7.2	6	5.5	5			
\$10, less than \$15.....		74	9.0	4	3.7	17	12.1	22	11.7	20	11.1	16	14.7	6	1		
\$15, less than \$20.....		68	8.3	2	1.9	5	3.5	22	11.7	16	8.9	11	10.1	4	3	1	
\$20, less than \$25.....		56	6.8	1	.9	7	5.0	12	6.4	17	9.4	7	6.4	8			
\$25, less than \$30.....		42	5.1	1	.9	5	3.5	9	4.8	12	6.7	7	6.4	4	3	1	
\$30 and over.....		27	3.3	3	2.8	3	2.1	1	1.5	9	5.0	2	1.8				
Same earnings.....		11	1.3	3	2.8	3	2.1	3	1.6	3	1.7	50	45.9	30	6	7	8
Decrease.....		18	2.2	3	2.8	6	4.3	6	3.2	84	46.7	2	1.8				
Not reported.....		342	41.8	17	15.7	60	42.6	80	42.6	180	100.0	109	100.0	61	14	9	8

<sup>2</sup> Per cent distribution not shown where base is less than 100.<sup>1</sup> Questionnaire group.

GENERAL TABLE X.—Increase in weekly earnings from first to present position, by length of work history, and by sex; minors in metal-manufacturing industries—Continued.

Minors in metal-manufacturing industries.																			
Total.				Length of work history.															
				Less than 1 year.		1 year, less than 2.		2 years, less than 3.		3 years, less than 4.		4 years, less than 5.		5 years, less than 6.	6 years, less than 7.	7 years and over.	Not reported.		
Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.						
				95	100.0	14	100.0	18	100.0	29	100.0	13	100.0	14	100.0	4	1	2	
Girls.....				16	16.8	9	64.2	3	16.7	2	6.9	1	7.7			1			
No previous position.....				41	43.2	3	21.4	8	44.4	13	44.8	6	46.2	8	57.1	2	1		
Increase.....				7	7.4	2	14.3	2	11.1	2	6.9	1	7.7						
Less than \$5.....				15	15.8	1	7.1	5	27.8	7	24.1	2	15.4						
\$5, less than \$10.....				12	12.6			1	5.6	3	10.3	3	23.1	3	21.4	2			
\$10, less than \$15.....				5	5.3					1	3.4			3	21.4				
\$15, less than \$20.....				2	2.1									2	14.3	1			
\$20, less than \$25.....				2	2.1														
Same earnings.....				1	1.1					1	3.4								
Decrease.....				5	5.3			2	11.1	1	3.4	2	15.4						
Not reported.....				32	33.7	2	14.3	5	27.8	12	41.4	4	30.8	6	42.9	1		2	

Minors in metal-manufacturing industries.<sup>1</sup>

Grade completed and sex.	White.										Negro. <sup>3</sup>	Color not reported. <sup>3</sup>	
	Total.			Native.			Foreign born.						
	Total.			Native father.		Foreign-born father.		Nativity of father not re-ported. <sup>3</sup>		Per cent distri-bution.			
	Num-ber.	Per cent distri-bution.	Total.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.	Num-ber.	Per cent distri-bution.				
Total.....	913	100.0	568	448	100.0	270	172	100.0	6	120	100.0	324	100
Third and lower grades.....	8	.9	6	2	.4	2	7	1.7	.....	4	3.3	1	.3
Fourth grade.....	16	1.8	10	6	1.3	2	2	1.7	.....	4	3.3	1	4
Fifth grade.....	35	3.8	18	8	1.8	7	1	.6	1	10	8.3	2	1.2
Sixth grade.....	72	7.9	38	22	4.9	9	13	7.6	.....	16	13.3	10	4.9
Seventh grade.....	144	15.8	87	70	15.6	38	29	16.9	3	17	14.2	24	7.4
Eighth grade.....	335	36.7	215	182	40.6	109	73	42.4	.....	33	27.5	54	16.7
First year high school.....	107	11.7	70	59	13.2	31	27	15.7	1	11	9.2	36	37.0
Second and third year high school.....	119	13.0	70	61	13.6	43	18	10.5	.....	9	7.5	48	14.8
Fourth year high school and higher education.....	46	5.0	30	26	5.8	21	5	2.9	.....	4	3.3	16	4.9
Grade not reported.....	25	2.7	18	8	1.8	5	2	1.2	1	10	8.3	5	1.5
Still in school, grade not reported.....	6	.7	6	4	.9	3	1	.6	.....	2	1.7	.....	.....
Boys.....	818	100.0	489	388	100.0	245	138	100.0	5	101	100.0	308	100.0
Third and lower grades.....	7	.9	5	2	.5	2	8	.....	.....	3	3.0	1	3
Fourth grade.....	14	1.7	8	4	1.0	2	1	.....	1	4	4.0	2	1.3
Fifth grade.....	33	4.0	16	8	2.1	7	1	.7	.....	8	7.9	16	5.2
Sixth grade.....	70	8.6	36	21	5.4	9	12	8.7	.....	15	14.9	24	7.8
Seventh grade.....	121	14.8	69	57	14.7	32	23	16.7	2	12	11.9	40	15.9
Eighth grade.....	299	36.6	186	158	40.7	97	61	44.2	.....	28	27.7	113	36.7
First year high school.....	95	11.6	59	48	12.4	28	19	13.8	1	11	10.9	35	11.4
Second and third year high school.....	109	13.3	62	54	13.9	39	15	10.9	.....	8	7.9	46	14.9
Fourth year high school and higher education.....	46	5.6	30	26	6.7	21	5	3.6	.....	4	4.0	16	5.2
Grade not reported.....	18	2.2	12	6	1.5	5	2	.....	1	6	5.9	4	1.3
Still in school, grade not reported.....	6	.7	6	4	1.0	3	1	.7	.....	2	2.0	.....	.....

<sup>1</sup> Questionnaire group.<sup>2</sup> All native except 1 for whom nativity was not reported.<sup>3</sup> Per cent distribution not shown where base is less than 100.

GENERAL TABLE XI.—Grade completed, by sex, color, and nativity of child and nativity of father; minors in metal-manufacturing industries—Continued.

Minors in metal-manufacturing industries.																	
White.										Negro.							
Total.				Total.			Native.						Foreign born.		Color not reported.		
							Total.		Native father.		Foreign-born father.						Nativity of father not re-ported.
Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.	Num-ber.	Per cent dis-trib-ution.		
95	100.0	79		60		25		34		1		19		16			
1	1.1	1										1					
2	2.1	2		2				2									
2	2.1	2										2					
2	2.1	2		1				1				1					
23	24.2	18		13		6		6		1		5		5			
36	37.9	29		24		12		12				5		7			
12	12.6	11		11		3		8						1			
10	10.5	8		7		4		3				1		2			
7	7.4	6		2				2				4		1			
Girls.....																	
Third and lower grades.....																	
Fourth grade.....																	
Fifth grade.....																	
Sixth grade.....																	
Seventh grade.....																	
Eighth grade.....																	
First year high school.....																	
Second and third year high school.....																	
Grade not reported.....																	

Minors in metal-manufacturing industries.<sup>1</sup>

Type of trade training courses taken.	Total.		Apprentices. <sup>2</sup>	Assemblers.		Inspectors.		Laborers and helpers.		Machine operators.		Stock and tool room workers. <sup>3</sup>	All other.	
	Num-ber.	Per cent distribu-tion.		Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.	Num-ber.	Per cent distribu-tion.		Num-ber.	Per cent distribu-tion.
Courses taken in day school:														
Total reporting.....	873	100.0	41	101	100.0	125	100.0	116	100.0	191	100.0	99	200	100.0
Total taking courses.....	139	15.9	7	11	10.9	22	17.6	11	9.5	29	15.2	20	39	19.5
Metal trades.....	59	6.8	3	4	4.0	9	7.2	5	4.3	10	5.2	13	15	7.5
Woodworking.....	22	2.5		1	1.0	2	1.6	4	3.4	5	2.6	1	9	4.5
Commercial.....	16	1.8				5	4.0			5	2.6	2	4	2.0
Other.....	33	3.8	4	6	5.9	4	3.2		.9	8	4.2	4	6	3.0
Not reported.....	9	1.0				2	1.6	1	.9	1	.5		5	2.5
Taking no courses.....	734	84.1	34	90	89.1	103	82.4	105	90.5	162	84.8	79	161	80.5
Courses taken after leaving day school:														
Total reporting.....	807	100.0	34	97	100.0	112	100.0	105	100.0	174	100.0	89	196	100.0
Total taking courses.....	118	14.6	3	13	13.4	17	15.2	11	10.5	36	20.7	11	27	13.8
Metal trades.....	78	9.7	3	10	10.3	9	8.0	4	3.8	22	12.6	7	23	11.7
Woodworking.....	1	.1								1	.9			
Commercial.....	13	1.6		1	1.0	6	5.4	2	1.9	3	1.7		1	.5
Other.....	20	2.5		2	2.1	2	1.8	5	4.8	6	3.4	2	3	1.5
Not reported.....	6	.7								4	2.3			
Taking no courses.....	689	85.4	31	84	86.6	95	84.8	94	89.5	138	79.3	78	169	86.2

<sup>1</sup> Questionnaire group.<sup>2</sup> Per cent distribution not shown where base is less than 100.<sup>3</sup> Excludes 40 who did not report whether courses were taken.<sup>4</sup> Excludes 106 who did not report whether courses were taken.

GENERAL TABLE. XIII.—Type of trade training courses taken after leaving day school, by type taken in day school and by sex; minors in metal-manufacturing industries.<sup>1</sup>

Minors in metal-manufacturing industries. <sup>1</sup>																
Type of trade training courses taken in day school, and sex.	Total.	Total reporting.	Taking trade training courses after leaving day school.										Taking no courses.	Not reported whether any course taken.		
			Metal trades.							Wood-working.	Com-mer-cial.	All other.			Type of course not re-ported.	
			Total.	Tool and pattern mak-ing.	Mechani-cal and elec-trical engi-neer-ing.	Mechani-cal draw-ing and draft-man-ship.	Ma-chine-shop prac-tice.	Foundry.	Auto-mo-bile repair and assem-bly.							Other.
Total.....	913	807	118	78	17	17	10	1	15	11	1	13	20	6	689	106
Total reporting.....	873	781	111	74	16	17	10	1	13	11	1	11	20	5	670	92
Total taking courses.....	139	118	36	25	7	8	4	.....	3	1	.....	5	4	2	84	19
Metal trades.....	59	52	19	14	5	5	1	.....	2	1	.....	2	2	1	33	7
Tool and pattern mak-ing.....	17	15	7	5	4	.....	1	.....	.....	.....	.....	.....	1	1	8	2
Mechanical and elec-trical engineering.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Mechanical drawing and draftsman-ship.....	30	27	10	7	1	4	1	.....	1	.....	.....	2	1	.....	17	3
Machine-shop practice.....	5	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	2
Foundry.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....
Automobile repair and assembly.....	2	2	1	1	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	.....
Other metal trades.....	1	1	1	1	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Woodworking.....	22	20	8	4	.....	.....	2	.....	1	.....	.....	2	1	1	12	2
Commercial.....	16	12	2	1	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	10	4
All other.....	33	29	6	5	1	3	1	.....	.....	.....	.....	1	.....	.....	23	4
Type of course not reported.....	9	7	1	1	1	1	.....	.....	.....	.....	.....	.....	.....	.....	6	2
Taking no courses.....	734	661	75	49	9	9	6	1	10	10	1	6	16	3	586	73
Not reported.....	40	26	7	4	1	.....	.....	.....	2	.....	.....	2	.....	1	19	14

	SIS	728	113	78	17	7	17	10	1	15	11	1	10	18	6	615	90
Boys.....																	
Total reporting.....	796	709	107	74	16	6	17	10	1	13	11	1	9	18	5	602	77
Total taking courses.....	136	115	36	25	7	2	8	4		3	1	1	5	4	2	81	19
Metal trades.....	59	52	19	14	5		5	1		2	1		2	2	1	33	7
Tool and pattern making.....	17	15	7	5	4		1							1	1	8	2
Mechanical and electrical engineering.....	2	2														2	
Mechanical drawing and draftsmanship.....	30	27	10	7	1		4	1		1			2	1	2	17	3
Machine-shop practice.....	5	3														3	2
Foundry.....	2	2														2	
Automobile repair and assembly.....	2	2	1	1							1					1	
Other metal trades.....	1	1	1	1						1							
Woodworking.....	22	20	8	4		1		2		1			2	1	1	12	2
Commercial.....	14	10	2	1						1			1	1		8	4
All other.....	32	28	6	5	1		3	1					1			22	4
Type of course not reported.....	9	7	1	1		1										6	2
Taking no courses.....	650	592	71	49	9	4	9	6	1	10	10	1	4	14	3	521	58
Not reported.....	32	19	6	4	1	1				2			1		1	13	13
Girls.....																74	16
Total reporting.....	95	79	5										3	2			
Total taking courses.....	87	72	4										2	2		68	15
Commercial.....	3	3														3	
All other.....	2	1														2	
Taking no courses.....	1	1														1	
Not reported.....	84	69	4										2	2		65	15
Not reported.....	8	7	1										1			6	1

1 Questionnaire group.

GENERAL TABLE XIV.—*Kind of school attended; minors in metal-manufacturing industries<sup>1</sup> who took trade training courses after leaving school.*

Kind of school.	Minors in metal-manufacturing industries who took trade training courses after leaving school. <sup>1</sup>		Kind of school.	Minors in metal-manufacturing industries who took trade training courses after leaving school. <sup>1</sup>	
	Num-ber.	Per cent distri-bution.		Num-ber.	Per cent distri-bution.
Total.....	118	100.0	Business schools.....	6	5.1
Public school.....	30	25.4	Automobile schools.....	5	4.2
Factory.....	21	17.8	Other.....	17	14.4
Correspondence.....	19	16.1	Not reported.....	20	16.9

<sup>1</sup> Questionnaire group.GENERAL TABLE XV.—*Length of trade training course, by type of course; minors in metal-manufacturing industries<sup>1</sup> who took trade training courses after leaving school.*

Type of trade-training course after leaving school.	Minors in metal-manufacturing industries who took trade training courses after leaving school. <sup>1</sup>						
	Total.	Length of course.					
		Less than 3 months.	3 months, less than 6.	6 months, less than 9.	9 months, less than 12.	12 months and over.	Not reported.
Total.....	118	13	20	27	3	27	28
Metal trades.....	78	9	17	19	1	18	14
Tool and pattern making.....	17	1	3	3	.....	5	5
Mechanical and electrical engineering.....	7	.....	2	3	1	1	.....
Mechanical drawing and draftsmanship.....	17	3	3	6	.....	3	2
Machine-shop practice.....	10	1	3	1	.....	4	1
Foundry.....	1	.....	.....	1	.....	.....	.....
Automobile repair and assembly.....	15	3	3	2	.....	2	5
Other metal trades.....	11	1	3	3	.....	3	1
Woodworking.....	1	.....	.....	.....	.....	1	.....
Commercial.....	13	1	2	3	1	3	3
All other.....	20	3	.....	5	1	3	8
Not reported.....	6	.....	1	.....	.....	2	3

<sup>1</sup> Questionnaire group.



GENERAL TABLE XVI.—*Enrollment in specified class in night school, by occupation and industry and by sex; selected group of pupils in Detroit, Mich., night schools.*

Occupation and industry and sex.	Total pupils. <sup>1</sup>	Pupils in selected group in Detroit night schools enrolled in each specified class.						
		Mathematics.	Machine shop.	Automobiles.	Mechanical drawing.	Other drafting. <sup>2</sup>	Pattern making.	Welding.
Male.....	449	176	80	39	47	24	15	11
Manufacturing and mechanical.....	332	141	67	33	35	17	13	9
Iron and steel and other metal...	265	110	63	30	30	13	12	8
Apprentices.....	18	9	2	1	8		1	
Grinders and polishers.....	11	4	4	1	1			2
Grinders.....	10	4	3	1	1			2
Polishers.....	1		1					
Machinists, millwrights, tool-makers.....	85	33	22	9	13	1	5	1
Machinists.....	38	13	11	3	5		2	1
Tool and die makers.....	25	12	5	1	6	1	2	
Other <sup>3</sup> .....	22	8	6	5	2		1	
Mechanics.....	10		2	3				4
Tinsmiths and coppersmiths.....	12	4				6		
Other occupations.....	129	60	33	16	8	6	6	1
Machine operators and machine hands.....	49	27	18	7	2			
Inspectors.....	20	5	5	1	3	1	2	
Assemblers.....	21	12	4	4	2	2	2	
Miscellaneous iron and steel.....	39	16	6	4	1	3	2	1
Building trades.....	11	2			2	4		1
Electricians.....	37	24	3	2	2			
Other manufacturing.....	19	5	1	1	1		1	
Transportation.....	22	2		3	1			
Telephone.....	17	1						
Other.....	5	1		3	1			
Professional service.....	27	11	4	2	4	4		1
Draftsmen and designers.....	17	7	3	2	3	3		
Other.....	10	4	1		1	1		1
Clerical.....	50	18	4	1	4	3	2	1
Tool and stock.....	9	6	2					1
Other.....	41	12	2	1	4	3	2	
Other industries <sup>4</sup> .....	16	3	5		3			
Not reported.....	2	1						
Female.....	51	1				1		
Professional service.....	26							
Nurses.....	23							
Other.....	3							
Clerical.....	21	1				1		
Stenographers and typists.....	14							
Other.....	7	1				1		
Other industries.....	3							
Not employed.....	1							

<sup>1</sup> "Total pupils" is not total enrollment in the courses since some pupils were taking more than one course.

<sup>2</sup> Includes architectural drawing, sheet-metal drawing, body drafting, blue print, and designing.

<sup>3</sup> Includes 3 pattern makers.

<sup>4</sup> Includes trade, 7; domestic and personal service, 5; public service, 2; agriculture, forestry, and animal husbandry, 2.

GENERAL TABLE XVI.—*Enrollment in specified class in night school, by occupation and industry and by sex; selected group of pupils in Detroit, Mich., night schools—Continued.*

Occupation and industry and sex.	Pupils in selected group in Detroit night schools enrolled in each specified class—Continued.						
	Electrical. <sup>6</sup>	Radio.	Telephony.	Grades.	Pharmacy and chemistry.	Gymnasium and swimming.	English.
Male.....	33	9	15	14	24	4	21
Manufacturing and mechanical.....	23	6	.....	12	6	4	15
Iron and steel and other metal.....	7	4	.....	9	1	3	12
Grinders.....	.....	.....	.....	1	.....	.....	.....
Machinists, millwrights, tool-makers.....	4	1	.....	2	.....	1	4
Machinists.....	2	1	.....	1	.....	1	4
Tool and die makers.....	.....	.....	.....	.....	.....	.....	.....
Other <sup>1</sup> .....	2	.....	.....	1	.....	.....	.....
Mechanics.....	.....	.....	.....	.....	.....	.....	1
Tinsmiths and coppersmiths.....	.....	.....	.....	2	.....	.....	.....
Other occupations.....	3	3	.....	4	1	2	7
Machine operators and machine hands.....	.....	1	.....	.....	1	1	3
Inspectors.....	.....	.....	.....	.....	.....	.....	2
Assemblers.....	1	1	.....	.....	.....	1	.....
Miscellaneous iron and steel.....	2	1	.....	4	.....	.....	2
Building trades.....	.....	.....	.....	2	.....	.....	.....
Electricians.....	14	1	.....	.....	2	1	1
Other manufacturing.....	2	1	.....	1	3	.....	2
Transportation: Telephone.....	1	.....	15	.....	1	.....	.....
Professional service.....	3	.....	.....	.....	1	.....	1
Draftsmen and designers.....	.....	.....	.....	.....	.....	.....	.....
Other.....	3	.....	.....	.....	1	.....	.....
Clerical.....	6	2	.....	1	14	.....	1
Tool and stock.....	3	.....	.....	.....	1	.....	.....
Other.....	3	2	.....	1	13	.....	1
Other industries <sup>4</sup> .....	.....	1	.....	1	2	.....	3
Not reported.....	.....	.....	.....	.....	.....	.....	1
Female.....	.....	.....	.....	2	34	20	2
Professional service.....	.....	.....	.....	.....	29	2	.....
Nurses.....	.....	.....	.....	.....	27	.....	.....
Other.....	.....	.....	.....	.....	2	2	.....
Clerical.....	.....	.....	.....	1	3	17	1
Stenographers and typists.....	.....	.....	.....	1	1	15	.....
Other.....	.....	.....	.....	.....	2	2	1
Other industries.....	.....	.....	.....	1	.....	1	1
Not employed.....	.....	.....	.....	.....	2	.....	.....

<sup>6</sup> Includes electric laboratory, armature winding, electricity (direct current), electricity (alternating current), electrical construction.

## APPENDIX IV.—A BRIEF BIBLIOGRAPHY.

### GENERAL.

Federal Board for Vocational Education.

The Turnover of Labor. Bulletin No. 46. Employment Management Series No. 6. Government Printing Office, Washington, 1920. (60 pp.)

The meaning, cost, nature, and causes of labor turnover are discussed. Methods for computing and for reducing labor turnover are suggested.

Employment Management, Its Rise and Scope: The organization of an employment department, by Boyd Fisher and Edward B. Jones. Bulletin No. 50. Employment Management Series No. 1. Government Printing Office, Washington, 1920.

The Selection and Placement of Employees. Bulletin No. 49. Employment Management Series No. 2. Government Printing Office, Washington, 1919.

The Wage-Setting Process, by Alfred B. Rich. Bulletin No. 44. Employment Management Series No. 5. Government Printing Office, Washington, 1919.

New York Military Training Commission, Bureau of Vocational Training.

Our Boys: A study of 245,000 sixteen-, seventeen-, and eighteen-year-old employed boys of the State of New York, by Howard G. Burdge. J. B. Lyon Co., Printers, Albany, 1921. (345 pp.)

Simons, A. M.

Personnel Relations in Industry. The Ronald Press Co., New York, 1921. (341 pp.)

Mr. Simons emphasizes the need of job analysis on a national scale and discusses methods of hiring and training workers, labor turnover, factory conditions, democracy in industrial management, and other related topics.

U. S. Bureau of Education.

The Money Value of Education, by A. Caswell Ellis. Bulletin 1917, No. 22. Government Printing Office, Washington, 1917. (52 pp.)

In this bulletin Doctor Ellis discusses the value of education in developing national resources and its value to the individual. A list of references is included.

List of References on the Economic Value of Education. Prepared in the Library Division, U. S. Bureau of Education. Library Leaflet No. 4. Government Printing Office, Washington, 1919. (7 pp.)

U. S. Bureau of Labor Statistics.

Personnel Research Agencies: A guide to organized research in employment management, industrial relations, training, and working conditions, by J. David Thompson. Bulletin No. 299, Miscellaneous Series. Government Printing Office, Washington, 1921. (207 pp.)

Industrial Survey in Selected Industries in the United States, 1919. Preliminary report, prepared under the supervision of Allan H. Willett. Bulletin No. 265. Government Printing Office, Washington, 1920. (509 pp.)

This contains a table showing, by occupation, the number of employees, wages per hour, and hours of work for workers in various industries, among which are automobile, machinery, and machine-tool manufacturing.

**U. S. Children's Bureau.**

**Standards of Child Welfare:** A report of the Children's Bureau conferences, May and June, 1919. Bureau Publication No. 60, Separate No. 2, Child Labor. Government Printing Office, Washington, 1919.

Papers given at the Children's Bureau Conferences on Child Welfare, May and June, 1919, discussing the legislative prohibition of employment, the legislative regulation of employment, and vocational guidance and placement.

**Minimum Standards for Child Welfare Adopted by the Washington and Regional Conferences on Child Welfare, 1919.** Publication No. 62. Government Printing Office, Washington, 1920. (16 pp.)

In this bulletin are summarized the standards for children in industry as adopted by the conferences.

**State Compulsory School-Attendance Standards Affecting the Employment of Minors, Legal Chart No. 2.** Government Printing Office, Washington, 1921. (3 pp.)

School attendance laws affecting employment of minors are presented in chart form.

**State Child-Labor Standards, Legal Chart No. 1.** Government Printing Office, Washington, 1921.

Child labor laws of the various States are presented in chart form.

**Industrial Instability of Child Workers:** A study of employment-certificate records in Connecticut, by Robert Morse Woodbury, Ph. D. Publication No. 74. Government Printing Office, Washington, 1920. (86 pp.)

**U. S. Public Health Service.**

**Comparison of an Eight-hour Plant and a Ten-hour Plant:** Studies in industrial physiology: fatigue in relation to working capacity, by Josephine Goldmark and others. Bulletin No. 106. Government Printing Office, Washington, 1920.

An analysis of the effect of the longer hours upon maintenance of output, restricted output, industrial accidents, labor turnover, etc. Both plants under discussion are metal-working factories.

**INDUSTRIAL EDUCATION AND VOCATIONAL GUIDANCE.**

Bloomfield, Meyer.

**Readings in Vocational Guidance.** Edited by Meyer Bloomfield. Ginn & Co., Boston, 1915. (723 pp.)

This book contains a comprehensive selection of articles on vocational guidance prior to 1915.

Brewer, John M.

**The Vocational-Guidance Movement, Its Problems and Possibilities.** The MacMillan Co., New York, 1918. (333 pp.)

Contains a full bibliography.

**Conference Board on Training of Apprentices.**

**Practical Apprenticeship:** A bulletin of information on the training of industrial workers. Bulletin No. 2—Fundamentals of Apprenticeship. 1917. (30 pp.)

The board represents The National Association of Manufacturers, The National Founders' Association, The National Metal Trades Association, The United Typothetæ, Franklin Clubs of America, The National Tool Builders' Association, and The American Foundrymen's Association. Recommendations of the board in regard to supervision of apprentices, trade training, technical instruction, wages, bonuses, probation, examinations, duration of apprenticeship, physical, mental, and moral qualifications, and form of indenture.

Douglas, Paul H., Ph. D.

American Apprenticeship and Industrial Education: Studies in history, economics, and public law. Edited by the Faculty of Political Science of Columbia University. Vol. XCV, No. 2, Whole No. 216. Columbia University, Longmans, Green & Co., Agents, New York, 1921. (348 pp.)

The main divisions are as follows: American apprenticeship, its background, development, and decay; Juvenile labor and the educational requirements of modern industry; Modern substitutes for apprenticeship; and Social aspects. A bibliography is appended.

Federal Board for Vocational Education.

Bibliography on Vocational Guidance: A selected list of vocational-guidance references for teachers. Bulletin No. 66, Trade and Industrial Series No. 19. Government Printing Office, 1921. (35 pp.)

A good up-to-date bibliography compiled by Prof. Charles L. Jacobs, associate professor of education and supervisor of trade and industrial teacher-training classes, University of California, Berkeley, Calif.

Trade and Industrial Education, Organization, and Administration. Bulletin No. 17, Trade and Industrial Education Series No. 1. Government Printing Office, Washington, 1918. (125 pp.)

The bulletin was published to supply information and suggestion concerning the organization and administration of trade and industrial schools and classes under the Federal law.

Part-Time Trade and Industrial Education. Bulletin No. 19, Trade and Industrial Series No. 3. Government Printing Office, Washington, 1918.

A description of part-time school systems already established in the United States, Germany, England, and France; a discussion of types of part-time schools and a definition of Federal aid for part-time schools.

Buildings and Equipment for Schools and Classes in Trade and Industrial Subjects. Bulletin No. 20, Trade and Industrial Series No. 4. Government Printing Office, Washington, 1918.

Compulsory Part-Time School Attendance Laws. Bulletin No. 55, Trade and Industrial Series No. 14. Government Printing Office, Washington, 1921.

Trade and Industrial Education for Girls and Women. Part 1.—Economic and social aspects of vocational education for girls and women. Part 2.—Ways and means of establishing and operating a program. Bulletin No. 58, Trade and Industrial Series No. 15. Government Printing Office, Washington, 1920.

Part-Time Schools: A survey of experience in the United States and foreign countries, with recommendations. Bulletin No. 73, Trade and Industrial Series No. 22. Government Printing Office, Washington, 1922.

Emergency War Training for Oxy-Acetylene Welders. Bulletin No. 11. Government Printing Office, Washington, 1918. (86 pp.)

The first part treats of the development and application in industry and war of oxy-acetylene welding and cutting. The second part outlines the United States Army course in this type of welding.

Employment Management and Industrial Training. Bulletin No. 48, Employment Management, Series No. 4. Government Printing Office, Washington, 1920. (107 pp.)

Kelly, Roy Willmarth.

Training Industrial Workers. The Ronald Press Co., New York, 1920. (437 pp.)

Special emphasis is laid on the methods of organizing and conducting training within the factory. Public-school industrial training, vocational guidance, and kindred problems are discussed. A 22-page bibliography is appended.

Motley, James M., Ph. D.

Apprenticeship in American Trade Unions. Series XXV, Nos. 11-12, Johns Hopkins University Studies in Historical and Political Science. The Johns Hopkins Press, Baltimore, 1907. (122 pp.)

The history of apprenticeship under statute law, customary regulation, trade-union regulation, and trade agreement. The extent of union regulation by the American Federation of Labor, the purpose and character of regulation are discussed. The book gives a very exhaustive treatment of the subject.

Snedden, David.

Vocational Education. The MacMillan Company, New York, 1920. (587 pp.)

A discussion of current problems in vocational education.

U. S. Bureau of Education.

Vocational Secondary Education. Prepared by the Committee on Vocational Education of the National Education Association. Bulletin, 1916, No. 21. Government Printing Office, Washington, 1916. (163 pp.)

The bulletin contains a brief historic sketch, describes the kinds of schools established in this country, discusses terms and definitions used, methods for vocational education surveys, vocational guidance, and other problems. Primarily for those wishing to introduce vocational education into public schools.

The Apprenticeship System in its Relation to Industrial Education, by Carroll D. Wright. Bulletin, 1908, No. 6, Whole No. 389. Government Printing Office, Washington, 1908. (116 pp.)

A history of apprenticeship with a discussion of types of apprenticeship systems: (1) Type in which shop and school are intimately connected; (2) type under which apprentices are controlled to some extent outside working hours; (3) mixed types. Schools are listed and classified. A bibliography and a digest of laws are included.

List of references on Vocational Education. Prepared in the Library Division, Bureau of Education. Library Leaflet No. 15. Government Printing Office, Washington, 1922. (20 pp.)

U. S. Commissioner of Labor.

Twenty-fifth Annual Report of the Commissioner of Labor, 1910: Industrial education. Government Printing Office, Washington, 1911. (822 pp.)

An exhaustive report on industrial education in the United States, including philanthropic and public industrial schools, apprenticeship schools, cooperative industrial schools, evening industrial schools, textile schools, etc.

U. S. Training Service.

Industrial Training for Foundry Workers. Training Bulletin No. 24. Government Printing Office, Washington, 1919. (68 pp.)

The bulletin outlines in detail apprenticeship training in foundries, an upgrading system for foundry workers, and training for foremen, and gives outlines for the guidance of instructors, and a bibliography of technical books.

**U. S. Training and Dilution Service.**

A Successful Apprenticeship Tool Makers' School: Methods used by a large manufacturing company for training new employees to operate machine tools and for subassembly work, and to upgrade experienced operators for work in the tool rooms. Training Bulletin No. 2. Government Printing Office, Washington, 1918.

**OCCUPATIONAL ANALYSES, INCLUDING VOCATIONAL-EDUCATION SURVEYS.**

Boston (Mass.), Vocation Bureau.

Vocations for Boys.—The Machinist. Bulletin No. 1. The Vocation Bureau of Boston, Boston, 1911. (22 pp.)

Contains brief discussions of the divisions, dangers, conditions, and future of the trade; pay, positions, opportunities, qualities and training required, and apprenticeship.

Cleveland (Ohio) Education Survey.

The Metal Trades, by R. R. Lutz. The Survey Committee of the Cleveland Foundation, Cleveland, Ohio, 1916. (129 pp.)

Occupations, wages, opportunities, training, and general trade conditions are discussed for factories producing foundry and machine-shop products and automobiles, and for steelworks, rolling mills, and related industries.

Federal Board for Vocational Education.

Job Specifications. Bulletin No. 45, Employment Management Series No. 3. Government Printing Office, Washington, 1920.

A brief discussion of methods and uses of job analysis.

The Labor Audit: A method of industrial investigation. Bulletin No. 43, Employment Management Series No. 8. Government Printing Office, Washington, 1920.

This presents the reasons for making a labor audit, the prerequisites for a labor audit, the methods which may be used in making and in presenting a labor audit, and the results of a labor audit.

The Metal Trades: Molders, sheet-metal workers, machinists and machine operators, bench hands, assemblers, and erectors. For disabled soldiers, sailors, and marines, to aid them in choosing a vocation. Opportunity Monograph, Vocational Rehabilitation Series No. 7. Government Printing Office, Washington, 1919. (15 pp.)

A brief description of each occupation listed, its promotional opportunities, trade-training requirements, hours and wages, processes, and the kinds of workshops in which it is performed. Other occupations are treated in a similar way in other bulletins of the same series.

Oxy-Acetylene Welding. For disabled soldiers, sailors, and marines, to aid them in choosing a vocation. Opportunity Monograph, Vocational-Rehabilitation Series No. 9. Government Printing Office, Washington, 1919.

Occupations in the Automobile-Manufacturing Industry. For disabled soldiers, sailors, and marines, to aid them in choosing a vocation. Opportunity Monograph, Vocational-Rehabilitation Series No. 20. Government Printing Office, Washington, 1919.

The Indiana State Board of Education.

Report of the Indianapolis Survey for Vocational Education. Vols. I and II. Educational Bulletin No. 21, Survey Series No. 6, Indianapolis.

An analysis of occupations with special reference to skill and education required is given, together with a description of factory organization and factory processes and a discussion of the demand for labor, wages, school training needed, etc., by Charles H. Winslow, Special Agent for Vocational Research.

Report of the Richmond, Ind., Survey for Vocational Education. Robert J. Leonard, Director. Educational Bulletin, Vocational Series No. 15, Indiana Survey Series No. 3. Indianapolis, 1916. (599 pp.)

The common occupations in the industries of Richmond are described, hours, wages, and promotional opportunities specified, and the requirements for each analyzed, to discover what training, if any, is needed to fit the young worker to enter such occupations. Automobile, wire-fence, agricultural-implement, machine-tool, and other metal-manufacturing industries are included. A survey of the schools and an explanation of the survey method are included.

U. S. Bureau of Labor Statistics.

Vocational Education: Survey of Minneapolis, Minn., made by the National Society for the Promotion of Industrial Education. Bulletin Whole No. 199. Government Printing Office, Washington, 1917. (592 pp.)

Chapter VIII deals with the metal-working industries of Minneapolis, under the heads of description of occupations, general working conditions, hazards, demand for labor, and need for technical training of employees.

U. S. Army Trade Specifications and Index of Professions and Trades in the Army, Second Edition. War Department Document No. 774, Office of the Adjutant-General. Government Printing Office, Washington, 1918. (239 pp.)

Duties and qualifications for each occupation needed in Army service are specified. Most kinds of metal-manufacturing work are included.

Vocational Education Survey of Richmond, Va. Bulletin Whole No. 162, Miscellaneous Series No. 7. Government Printing Office, Washington, 1916. (333 pp.)

The survey included several branches of the metal-manufacturing industry.

U. S. Department of Labor.

Descriptions of Occupations: Metal working, building and general construction, railroad transportation, shipbuilding. Prepared for the United States Employment Service by the United States Bureau of Labor Statistics. Government Printing Office, Washington, 1918. (123 pp.)

A description of each of the more important occupations is given, together with a statement of qualifications and schooling necessary. Arrangement is in outline form. Descriptions are somewhat technical.

## INDUSTRIAL ACCIDENTS—PREVENTION AND ACCIDENT STATISTICS.

Beyer, David Stewart, Ph. D.

Industrial Accident Prevention, with Illustrations. Houghton, Mifflin Company, New York, 1916. (421 pp.)

The subject is treated under the following heads: General phases of the accident problem, building construction and arrangement, power generation and distribution, machine construction and arrangement, etc., special industries, fire hazard, explosion hazard, personal elements. The book is well illustrated. The treatment is somewhat technical.



Cowee, George Alvin, E. M., S. B.

Practical Safety Methods and Devices, Manufacturing and Engineering. D. Van Nostrand Company, 25 Park Place, New York, 1916. (434 pp. illus.)

The book is intended to provide for employers, superintendents, foremen, underwriters, safety inspectors, and engineers generally a convenient summary of standard safety methods and devices. It is therefore somewhat technical.

Detroit Public Library.

Accident Prevention in Industry: A selected bibliography compiled by the Detroit Public Library for the Accident Prevention Department of the Michigan Mutual Liability Co. Detroit, 1919. (7 pp.)

Federal Board for Vocational Education.

Industrial Accidents and Their Prevention. Bulletin No. 47, Employment Management Series No. 7. Government Printing Office, Washington, 1920. (66 pp.)

The bulletin discusses methods of safety organization and accident prevention, safety equipment, and accounting for safety.

Hansen, Carl M., M. E.

Universal Safety Standards: A reference book of rules, drawings, tables, formulæ, data and suggestions for use of architects, engineers, superintendents, foremen, inspectors, mechanics, and students, compiled under the direction of and approved by the Workmen's Compensation Service Bureau, New York. Second Edition, Revised and Enlarged. Universal Safety Standards Publishing Company, New York, 1914. (312 pp.)

As the title implies, the work is technical.

International Association of Industrial Accident Boards and Commissions.

Proceedings, 1916-1920, incl., U. S. Bureau of Labor Statistics Bulletins Nos. 210, 248, 264, 273, and 281, respectively. Government Printing Office, Washington.

Papers read at the annual meetings of this association deal with the administration of workmen's compensation laws, accident prevention, safety organization, accident statistics, and other related subjects.

Standardization of Industrial Accident Statistics: Reports of the committee on statistics and compensation insurance cost of the International Association of Industrial Accident Boards and Commissions, 1915-1919. U. S. Bureau of Labor Statistics Bulletin No. 276. Government Printing Office, Washington, 1920. (103 pp.)

This bulletin suggests standards, definitions, and methods of reporting accidents, a classification of industries, causes of accidents, location and nature of injury and extent of disability, and standard table forms to be used in reporting accident and compensation statistics.

Report of Committee on Statistics and Compensation Insurance Cost of the International Association of Industrial Accident Boards and Commissions. U. S. Bureau of Labor Statistics Bulletin, Whole No. 201, Industrial Accident and Hygiene Series No. 9. Government Printing Office, Washington, 1916. (128 pp.)

For the use of persons or organizations handling accident statistics. The committee recommends in detail a classification of industries, accident causes, and location and nature of injury and extent of disability. This bulletin has been superseded by No. 276, given above.

## U. S. Bureau of Labor Statistics.

Causes of Death by Occupation, Occupational Mortality: Experience of the Metropolitan Life Insurance Company, Industrial Department, 1911-1913, by Louis I. Dublin, Ph. D. Bulletin, Whole No. 207, Industrial Accidents and Hygiene Series No. 11. Government Printing Office, Washington, 1917. (88 pp.)

Books and Periodicals on Accident and Disease Prevention in Industry in the Library of The Bureau of Labor Statistics. Government Printing Office, Washington, 1916. (23 pp.)

Industrial Accident Statistics, by Frederick L. Hoffman. Bulletin, Whole No. 157, Industrial Accidents and Hygiene Series, No. 5. Government Printing Office, Washington, 1915. (210 pp.)

A statement of the general accident problem in the United States is followed by a review of industrial-accident statistics in New York, Massachusetts, Illinois, and Wisconsin, and in some foreign countries. Standard methods of classification, tabulation, and analysis of industrial accidents are suggested.

Mortality from Respiratory Diseases in Dusty Trades (Inorganic Dusts), by Frederick L. Hoffman. Bulletin, Whole No. 231, Industrial Accidents and Hygiene Series, No. 17. Government Printing Office, Washington, 1918. (458 pp.)

Chapter II.—“Occupations with exposure to metallic dust” discusses dust hazards to which metal workers are exposed. Chapter III.—“Occupations with exposure to mineral dust” includes a discussion of dust, smoke, and gas hazards to which foundry workers are exposed. This work presents an exhaustive analysis of the information available on the subject.

The Safety Movement in the Iron and Steel Industry, 1907-1917, by Lucian W. Chaney and Hugh S. Hanna, June, 1918. Bulletin Whole No. 234, Industrial Accidents and Hygiene Series No. 18. Government Printing Office, Washington, 1918. (299 pp.)

The bulletin includes a discussion of the causes of accidents, accident-prevention work and safety organization accident rates, and accident experience in representative steel-manufacturing plants. Charts and illustrations add to the value of the text.

Causes and Prevention of Accidents in the Iron and Steel Industry, 1910-1919, by Lucian W. Chaney. U. S. Bureau of Labor Statistics Bulletin No. 298. Government Printing Office, Washington, 1922. (398 pp.)

This report brings together the results of a study of accidents in the iron and steel industry made by the Bureau of Labor Statistics during the last 10 years.

Accidents and Accident Prevention in Machine Building, by Lucian W. Chaney. Bulletin No. 256. Revision of Bulletin 216. Government Printing Office, Washington, 1920. (123 pp.)

The bulletin discusses different kinds of industrial accident rates, accident experience in different factories, safety organization in factories, safeguarding machinery and machine design as a factor of safety. Illustrations add to the value of the report.

Workman's Compensation Legislation of the United States and Foreign Countries, 1917 and 1918, September, 1918. Bulletin No. 243, Workmen's Insurance and Compensation Series. Government Printing Office, Washington, 1918. (477 pp.)

The bulletin contains an analysis of the principal features of the laws in each State of the Union, a discussion of the constitutionality and construction of statutes, an analysis of the laws of foreign countries, and the text of the various State laws.

U. S. Bureau of Labor Statistics—Continued.

Workmen's Compensation Legislation of the United States and Canada, by Lindley D. Clark and Martin C. Frincke, jr. Bulletin No. 272, Workmen's Insurance and Compensation Series. Government Printing Office, Washington, 1921.

This bulletin contains analyses and complete texts of laws.

Accidents and Accident Prevention: Report on Conditions of Employment in the Iron and Steel Industry in the United States, Vol. IV. Sixty-second Congress, First Session, Senate Document No. 110. Government Printing Office, Washington, 1913.

### TECHNICAL BOOKS ON METAL-MANUFACTURING PROCESSES.

Colvin, Fred H., A. S., M. E., and Stanley, Frank A.:

Machine Shop Primer. An introduction to machine tools and shop appliances, with illustrations, names, and definitions. McGraw-Hill Book Company, New York, 1910. (148 pp.)

A book for apprentices on machine-shop work which names and illustrates the common machine-shop tools and serves as a reference book on mechanical subjects.

American Machinists' Handbook and Dictionary of Shop Terms: A reference book of machine shop and drawing room data, methods, and definitions. Third edition. McGraw-Hill Book Company, New York, 1920. (758 pp.)

A good technical reference book with a glossary of technical terms.

Danforth, G. W., United States Navy.

An Elementary Outline of Mechanical Processes. Arranged for the instruction of midshipmen at the United States Naval Academy and for students in general. The United States Naval Institute, Annapolis, Md., 1917. (423 pp.)

A brief account of the materials used in engineering construction and of the essential features in the methods of producing them. Also describes shop processes and equipment for the shaping of metals into forms for engineering and general uses.





173  
DEC 27 1923

U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# CHILD WELFARE

## IN THE INSULAR POSSESSIONS OF THE UNITED STATES

### PART I PORTO RICO

BY  
HELEN V. BARY



Bureau Publication No. 127



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923



U. S. DEPARTMENT OF LABOR

JAMES J. DAVIS, Secretary

CHILDREN'S BUREAU

GRACE ABBOTT, Chief

# CHILD WELFARE

## IN THE INSULAR POSSESSIONS OF THE UNITED STATES

### PART I PORTO RICO

BY  
HELEN V. BARY



Bureau Publication No. 127



WASHINGTON  
GOVERNMENT PRINTING OFFICE  
1923

ADDITIONAL COPIES  
OF THIS PUBLICATION MAY BE PROCURED FROM  
THE SUPERINTENDENT OF DOCUMENTS  
GOVERNMENT PRINTING OFFICE  
WASHINGTON, D. C.

AT

15 CENTS PER COPY

---

PURCHASER AGREES NOT TO RESELL OR DISTRIBUTE THIS  
COPY FOR PROFIT.—PUB. RES. 57, APPROVED MAY 11, 1922



## CONTENTS.

---

	Page.
Letter of transmittal.....	v
Introduction.....	1
General conditions affecting child welfare.....	5-29
Education.....	5
Housing.....	8
Agriculture.....	11
The fight against disease.....	15
Infant mortality.....	18
Public medical service and hospitals.....	20
Manufactures.....	23
Wages.....	25
Poverty and charities.....	25
Juvenile courts.....	28
Activities of children's year.....	31-73
Vacation camp.....	32
Health teaching.....	33
Heights and weights of children.....	37
Physical examination in the schools.....	43
Traveling school physicians.....	44
Infants' and mothers' clinics.....	45
Division of child hygiene.....	48
Prevention of blindness campaign.....	49
Baby week.....	51
Homeless children.....	54-63
Homeless boys.....	55
Homeless girls.....	60
Abandoned mothers.....	63
Games and athletics.....	65
Developments since 1922.....	73

## CHARTS.

I. Comparative density of population and density of rural population in Porto Rico and the States in 1920.....	4
II. General increase of imports and exports between Porto Rico and the mainland of the United States and other countries, 1901-1922.....	12
III. Average weights of Porto Rican boys 6 to 16 years of age, as compared with Bowditch's figures.....	39
IV. Average weights of Porto Rican girls 6 to 16 years of age, as compared with Bowditch's figures.....	40
V. Average heights of Porto Rican boys 6 to 16 years of age, as compared with Bowditch's figures.....	41
VI. Average heights of Porto Rican girls 6 to 16 years of age, as compared with Bowditch's figures.....	42

## ILLUSTRATIONS.

	Facing page.
Typical city school.....	6
Typical rural school.....	6
Typical good and bad housing.....	10
Sugar-plantation housing.....	11
Houses built by the municipality of San Juan and sold on long terms to workingmen.....	11
Primitive methods of work.....	24
School dental clinic.....	36
Baby clinic conducted in schoolhouse.....	46
Children's parade, Baby Week, San Juan.....	52
School lunches.....	52
Open-air toothbrush drill.....	52

## LETTER OF TRANSMITTAL.

---

UNITED STATES DEPARTMENT OF LABOR,  
CHILDREN'S BUREAU,  
*Washington, September 19, 1923.*

SIR: There is transmitted herewith a report on Child Welfare in the Insular Possessions, Part I, Porto Rico.

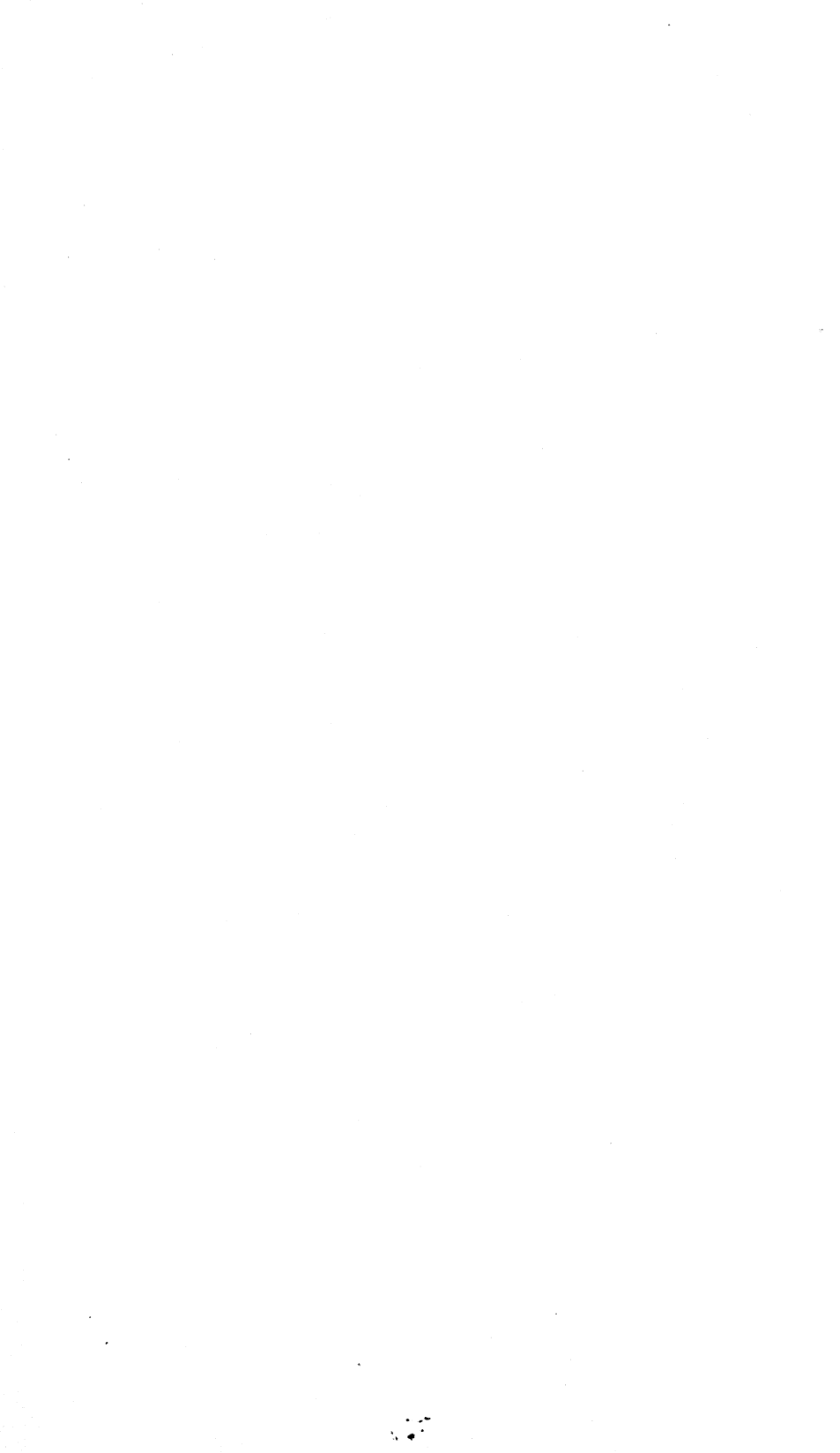
This study was undertaken at the request of the Department of Education of Porto Rico and took the form of a Children's Year survey, in which demonstration was combined with investigation. The survey was in charge of Helen V. Bary, of the Children's Bureau staff, and she has also written the report.

As this report of developing activities shows, the interest in child welfare touches every branch of the government as well as the private organizations in Porto Rico. The Children's Bureau has never undertaken any piece of work in which the cooperation was more genuine and desire for improvement greater than in Porto Rico.

Respectfully submitted.

GRACE ABBOTT,  
*Chief.*

Hon. JAMES J. DAVIS,  
*Secretary of Labor.*



# CHILD WELFARE IN THE INSULAR POSSESSIONS OF THE UNITED STATES.

## PART I: PORTO RICO.

### INTRODUCTION.<sup>1</sup>

Porto Rico, in area the fourth and in population the third largest of the West Indies, was acquired from Spain by the United States in 1898 following the Spanish-American War. Civil government was organized by the Foraker Act in 1900; and in 1917, by the Jones Act, the islanders were granted United States citizenship. The island now has a limited degree of self-government. The legislature and local officials are elected by popular vote, the governor is appointed by the President, and the insular officials are appointed either by the President or by the governor. The island has an elected Resident Commissioner in Washington who has a seat in the House of Representatives but no vote.

Porto Rico<sup>2</sup> has the oldest European settlements now under the American flag. The island was discovered by Columbus in 1493, was conquered by Ponce de Leon early in the sixteenth century, and remained Spanish territory until 1898. Under Spain the island was governed mainly by military governors. During the periods when Spain was under constitutional and not absolute rule (1812-1814, 1820-1823, 1870-1874, and 1877-1897) Porto Rico had direct representation in the Spanish Cortes, and a few months before the island was taken over by the United States the principle of autonomy was extended to it.

The history of Porto Rico is comparatively uneventful. The early Spanish records state that Ponce de Leon found the island well populated by peaceful tribes of Indians, whom he enslaved in the exploitation of its meager gold deposits. These deposits were soon exhausted, and thereafter Porto Rico served mainly as a military post to guard the Virgin and Mona Channels into the Caribbean Sea. Few settlements were made. Sugar cane was early brought to the island, but this and other agricultural resources were

<sup>1</sup> Historical data here given are from the Census of Porto Rico, 1899 (made by the U. S. War Department); *Historia de Puerto Rico*, by Salvador Brau; and other sources made available through the courtesy of the commissioner of education of San Juan.

<sup>2</sup> The Indian name of the island is Boriquen. Originally the Spanish named the island San Juan Bautista (St. John the Baptist) and the first settlement Puerto Rico (rich port). When this settlement was moved across the bay the name of San Juan was applied to the city and the island became known as Puerto Rico. By congressional act the name of the island is officially, though incorrectly, spelled Porto Rico.

very little developed until the arrival, beginning in 1815, of Spanish refugees driven out by revolutions in Venezuela, Colombia, and other Spanish colonies, who brought to the island capital, industry, and a knowledge of the cultivation of sugar and coffee.

The Spaniards who came to Porto Rico made the island their home to a far greater degree than those who went to most of the other Spanish-American colonies. After the early Castilian military men came settlers from Andalusia, Galicia, the Asturias, and the Basque Provinces, peaceful people devoted to the monarchy, the church, and stable institutions. The purpose of ruthlessly amassing fortunes to take back to Spain, which caused unrest and rebellion in the other Spanish-American colonies, was held in less degree by the colonists of Porto Rico. The general aspect of Porto Rican civilization was that of a Catholic colony leading a patriarchal life. The attitude of the Spanish Crown toward the island was liberal. With the exception of the gold which Ponce de Leon sent to the King and a few grants to assist in times of war, Porto Rico made no contribution to the mother country. In fact, for years Spain diverted revenue from Mexico and Venezuela to defray the expenses of the government of Porto Rico.

The United States census of 1920 gives the population of Porto Rico as 1,299,809, this number including 948,709 whites, 301,816 mulattoes, and 49,246 negroes. No Indians, classified as such, exist on the island at the present time.<sup>3</sup> The early Spanish records state that through war, disease, emigration, enforced labor, and intermarriage the Indians as a distinct race had disappeared within 50 years<sup>4</sup> of the coming of the Spaniards. Their influence still persists, however, and the Indian cast of features is to-day by no means uncommon.

As early as 1530 a few negro slaves were brought to Porto Rico, and their numbers were slowly increased. There resulted a considerable mixture of races. In Porto Rico the proportion of colored people is less, and relationships have been more free from racial distinctions, than in any of the other West Indies.<sup>5</sup> The Spaniards permitted the negroes to purchase their freedom upon reasonable conditions, and at the time slavery was abolished,<sup>6</sup> in 1873, the 257,709 colored population included only 31,635 slaves.

To the Spaniards, Indians, and early negroes have been added French, chiefly refugees from Haiti; a considerable number of Corsicans; negroes from the Virgin Islands; and small numbers of British, Germans, Syrians, Chinese, West Indians, and South Ameri-

<sup>3</sup> The Federal census lists no Indians. Insular statistics occasionally classify persons under this heading.

<sup>4</sup> In 1542 the few remaining Indians were freed by royal decree.

<sup>5</sup> For a considerable period few Spanish women were brought to Porto Rico.

<sup>6</sup> By decree, with indemnification of owners (total paid 11,000,000 pesos), and with the provision that the freed slaves enter into contracts to remain in the employ of their former owners or other persons or the State for three years.

cans.<sup>7</sup> At the present time the commerce of the island is principally with continental United States and this has brought continental Americans, although the number in 1920 (1,617) was less than the number in 1910 (2,303).

While some families have prided themselves upon preserving their blood unmixed the population in general is a product of the mixture of races. The prevailing type is Spanish, with occasional evidence of the addition of Indian or negro blood.

The area of Porto Rico is 3,435 square miles, and its present number of inhabitants makes it one of the most densely populated sections of the country. The accompanying graph shows that of the States only Rhode Island, Massachusetts, and New Jersey, whose inhabitants are supported chiefly by manufacturing, are more thickly settled.<sup>8</sup> In respect to density of rural population the contrast is especially striking. Virtually without industries, and with a high birth rate, Porto Rico faces a serious problem of overpopulation. The Porto Rican is not a wanderer, but the search for opportunities has sent thousands to the States. A colony of 7,364 is located in New York City, and 4,447 more are scattered through the States. Colonies have been sent to the sugar-cane plantations of Hawaii and Cuba, but not with entire success, as many were sent who had not the pioneering strength to make their way in a new country. Some have gone to Santo Domingo, which is not thickly settled and whose resources have not been exploited. The total number who have emigrated is small compared with the increase in population.

Porto Rico to-day is known to the American people mainly as a tourist resort—an island of great beauty, quaint customs, and old-world charm. The island is little more than 100 miles long and 35 miles wide, but the mountains cut it into picturesque, distinctive valleys and create greater diversity of climate and scenery than is usually to be found in a far larger territory. Around the edge of the island circles the railway. Across the island go splendid highways, winding through the mountains and bringing the rural sections close to the cities. Telegraph and telephone wires bind together the towns and villages, and across the streams have been built bridges that would do credit to any community.

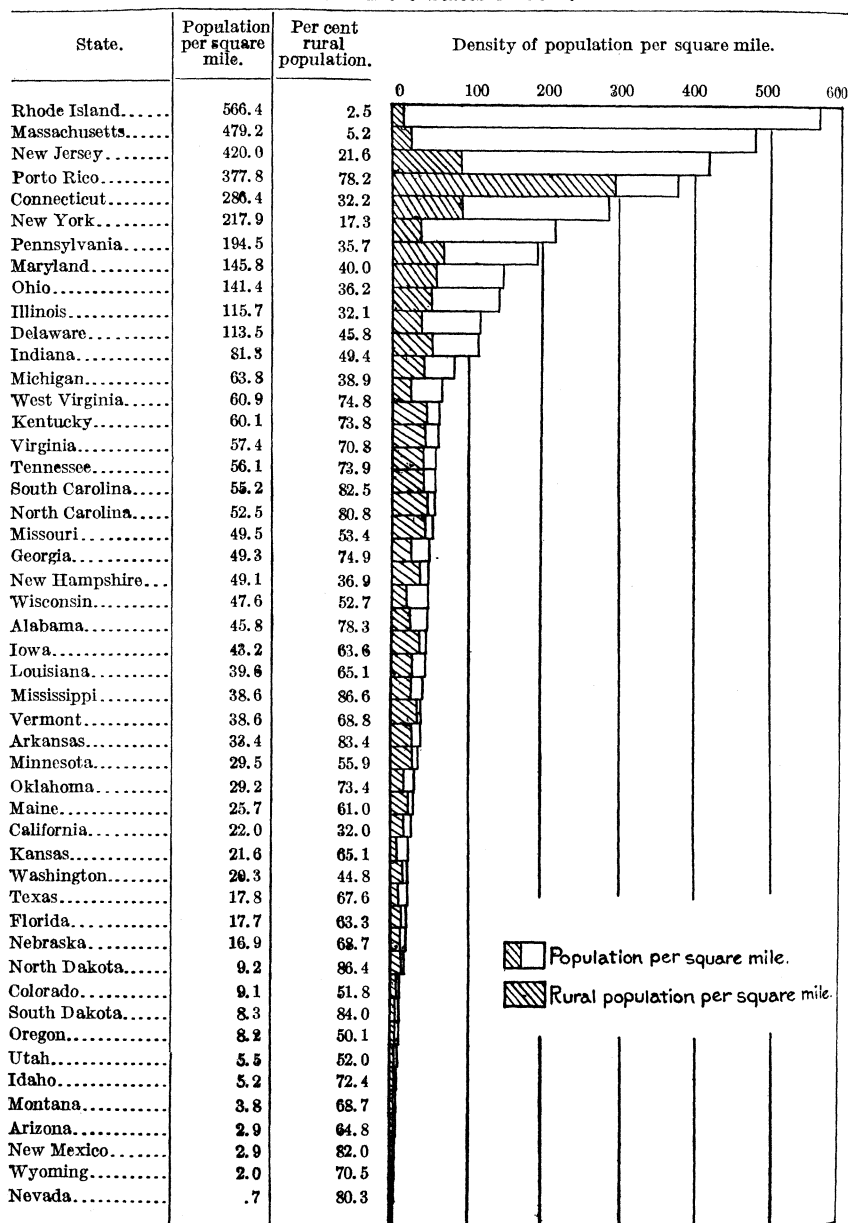
Quickened evolution has made present-day Porto Rico a land of sharp contrasts. Motors of the latest type drive past thatched huts such as were described by the early Spanish explorers, and the finest of continental culture may be found next door to tropical primitiveness.

<sup>7</sup> In 1920, according to the United States census, Porto Rico had a total foreign-born population of 8,167, and its total population included 8,858 persons claiming Spanish citizenship and 4,136 citizens of other nations.

<sup>8</sup> Figures for population per square mile, according to the United States census of 1920, are as follows: Porto Rico, 378; New Jersey, 420; Massachusetts, 479; and Rhode Island, 566.

A tropical standard of values is necessarily very different from a northern standard, and a Spanish background different from an American background. In justice Porto Rico must be viewed in a

CHART I.—Comparative density of population and density of rural population in Porto Rico and the States in 1920.



different light from a typical American community, with appreciation of the large cultural contribution the island can make to the Nation as well as of the responsibility of the Nation to Porto Rico.



# GENERAL CONDITIONS AFFECTING CHILD WELFARE.

## EDUCATION.

From the time when Porto Rico came under American administration great efforts have been made to extend educational facilities as rapidly as possible to all the people. In 1899 only 21,873 of the children on the island were in school, there were no public-school buildings at all, 426 rural barrios (small districts) were without school facilities of any kind, and the rate of illiteracy among those 10 years of age and over was 79.9 per cent. By the year 1921-22 the school enrollment had been increased to 188,959, 621 school buildings had been built,<sup>1</sup> and not a single barrio was without a school. According to the latest available figures,<sup>2</sup> the island's expenditure on education is larger in proportion to its resources than that of any of the States, although, because of the comparatively small revenues of the island, this represents a smaller amount per inhabitant than that of any of the States.

Until 1921 all the commissioners of education were from the States. They had small staffs of American supervisors and teachers, but the great bulk of the work has been performed by Porto Ricans.

The department of education was organized as a strongly centralized unit, and this plan of control still continues. The island is divided into 41 districts, each in charge of a supervisor responsible to the department. These supervisors have charge of the general management of the schools, the courses of study, and the teachers, who are appointed by the insular department. By means of this machinery it has been possible to establish schools and institute standards much more rapidly and effectively than if more initiative had been expected of local groups. In addition to district supervisors the department has special superintendents of different subjects—such as agriculture, manual training, physical education, home economics, and various academic studies—who travel from district to district strengthening the teaching of their special subjects. In this manner it has been possible to give supplementary training to the teaching force, the majority of whom have not had normal-school training, and gradually to raise the requirements of the profession.

---

<sup>1</sup> In addition, the schools were renting 1,584 buildings.

<sup>2</sup> Figures in regard to expenditures of the States in comparison to their wealth in Biennial Survey of Education, 1917-18, U. S. Bureau of Education Bulletin, 1919, No. 90; estimate of the per capita wealth of Porto Rico in 1911 in the Porto Rico Register of 1912; and figures as to the island's expenditures on schools in 1912 in the Report of the Governor, 1912.

The effort to lift the mass of the people out of a state of illiteracy has made the school system the center of a great impulse for progress. The extension of education has been an adventure in service to the people for which the States afford no direct parallel. Young men and women went out into the rural districts, enduring many privations, and worked practically all their waking hours at a very low rate of remuneration. Among the professional and business men, and the women of the more prosperous class, the proportion who have taught in the schools is very large. This has created among the general public a keen interest in the activities and the conduct of the schools, and has also tended to the development within the school system or in close cooperation with it of social activities which in the States are usually developed independently.

At the present time school facilities are still far from adequate, not only in the rural districts but in the towns and cities as well. A compulsory education law has been enacted but can not be enforced until funds are provided for additional buildings and teachers. All over the island children asking for education have to be turned away. For a time practically all applicants were admitted, but the classes were so large that instruction was virtually impossible. Now the double-enrollment plan is generally in use and the number of pupils is limited to 40 for each session. Thorough instruction is not possible under this arrangement, but the plan serves as a means of bringing at least some opportunity for education to the maximum number of children.

In the United States as a whole the annual cost per pupil of public-school education has more than doubled in 20 years.<sup>3</sup> In Porto Rico the cost per pupil per annum was \$15.46 in 1900 and has not been increased since that time.<sup>4</sup> This difference is due largely to the concentration of expenditures on elementary schools,<sup>5</sup> low salaries, and the increase of attendance by the double-enrollment plan. The total amount spent yearly by the insular government on education has been increased from \$288,098 in 1899 to \$2,929,944 in 1922.

The Federal census of 1920 showed 240,191<sup>6</sup> children of school age (5-17 years inclusive) in Porto Rico not in school and classed 55 per cent<sup>7</sup> of the population 10 years of age and over as illiterate.

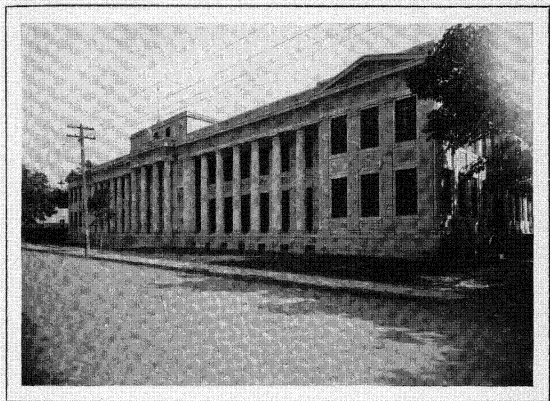
<sup>3</sup> Biennial Survey of Education, 1917-18, p. 54. U. S. Bureau of Education Bulletin, 1919, No. 90.

<sup>4</sup> Report of the Governor of Porto Rico, 1919, p. 540.

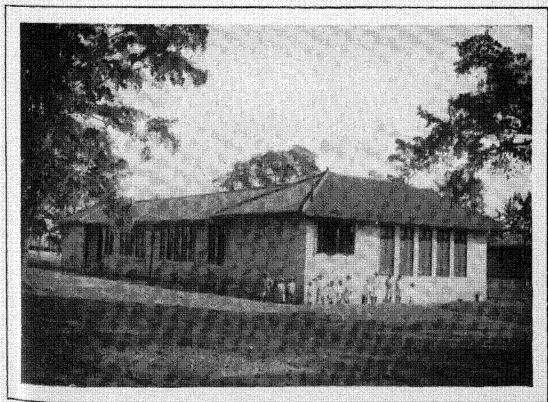
<sup>5</sup> Eighty-five per cent of all educational funds are spent on elementary education. Report of the Governor of Porto Rico, 1919, p. 539.

<sup>6</sup> Fourteenth Census of the United States, Vol. III, p. 1208.

<sup>7</sup> While 55 per cent of the total population 10 years of age and over were classed as illiterate, the effect of the recent improvements in educational facilities is shown by the proportions of the different age groups classed as illiterate, as follows: 10 to 14 years, 31 per cent; 15 to 19 years, 38.2 per cent; 20 to 24 years, 50 per cent; 25 to 34 years, 61.9 per cent; higher age groups, over 70 per cent. The illiteracy rate was higher among the female population than among the male, and higher among the colored than among the white population.



TYPICAL CITY SCHOOL.



TYPICAL RURAL SCHOOL.



The present percentage of illiteracy is not high compared with those of other Latin American populations, but it is far higher than that of any of the States and is a grave handicap to the operation of democratic institutions. For Porto Rico to provide elementary education for all and advanced education according to accepted American standards will necessitate greatly increased funds not available from the present insular revenues.

The general plan of education organized in Porto Rico was modeled after existing systems in the States. Whether this has been the wisest method of attaining the purposes of education has been questioned. Porto Rico is an agricultural country and will undoubtedly remain so. It has three basic problems—poverty, disease, and illiteracy. Under the given conditions a system of education aimed directly at eradicating disease, improving the mode of life, and bettering the methods of farming, as well as at reducing illiteracy, might accomplish greater results than the customary academic training which deals with these other factors only incidentally.

The school buildings in Porto Rico, whether large or small, are as a rule the finest buildings in the community. There has been developed on the island a modern and practical type of building which preserves the distinctive features of Spanish architecture, so well suited to warm climates. Practically all these buildings have assembly rooms which, used for community as well as for school purposes, help to make the school the center of all community activities. The spirit of the people is shown by the fact that in the erection of school buildings land, service, and money have in many instances been donated. In four years the number of sites donated was 58:

The general plan as to language medium in the Porto Rican schools is as follows: In the first four grades instruction is given in Spanish, and English is taught as a special subject; in the fifth grade the language medium is sometimes Spanish and sometimes English; beyond the fifth grade English is used and Spanish is taught as a special subject. Occasionally criticism has been made of this preservation of Spanish in the schools, but with limited funds for education it has been necessary to give the children education in Spanish. All the teachers have some knowledge of English, as have also a considerable number of persons in the cities, although of the whole population 90.1 per cent are unable to speak English.<sup>8</sup>

Naturally, this inability to use English freely restricts communication and understanding between Porto Rico and the mainland. With one exception the newspapers<sup>9</sup> are published in Spanish, and they reprint less from American journals than they would if trans-

<sup>8</sup> Fourteenth Census of the United States, Vol. III, p. 1207.

<sup>9</sup> Nine daily newspapers and several weeklies are published in Porto Rico.

lation were not necessary. A large public library has been established in San Juan and smaller public libraries are found in other cities, in addition to a few excellent collections of books belonging to private organizations. Excepting in the Carnegie Library of San Juan the books are mainly in Spanish. This situation has slowed the process of social development, as the literature on social subjects in Spanish is meager. Very few of the national organizations carrying on public-health and other educational work include Porto Rico in their programs, and their publications, being in English, are not available for general use there; and of the foreign-language material issued in the States very little is in Spanish. This obstacle of language has kept Porto Rico from becoming an integral part of the Nation and from being accepted in spirit as such. The development of the island educationally will and should be along bilingual lines. More English is very much needed; but with the cultural wealth of the Spanish language and traditions and the commercial possibilities of Latin connections, the sacrifice of the Spanish language would be an irreparable loss.

The rural schools cover the first four grades. In the towns work is continued to the eighth, ninth, or tenth grade, and 12 of the cities have high schools. At Rio Piedras is located the University of Porto Rico, which, in addition to its main work as a normal school, has departments of the liberal arts, education, pharmacy, and law, and a college of agriculture and mechanic arts at Mayaguez. For professional training, aside from pedagogy, young people from Porto Rico are now going mainly to the States. A generation ago the trend was to Spain and France. In 1921 the department of education listed 386 students in American institutions, of whom 94 were studying medicine, 58 business, 53 engineering, 30 dentistry, 21 pharmacy, 18 law, 13 the liberal arts, and 3 agriculture, the balance being engaged in elementary, secondary, and miscellaneous collegiate courses. A few years ago large groups of Porto Rican teachers were sent to Harvard and Columbia for summer-school work. In 1922 a large group of teachers of Spanish went from the States to Porto Rico for summer work in Spanish.

#### HOUSING.

For their better-class houses the Porto Ricans have adapted to local needs the best features of Spanish and American architecture, and the results are attractive and practical. The older houses, following the Spanish type, were constructed of solid masonry and covered with plaster in beautiful colors, with high ceilings, tiled floors, and in the center of the house the characteristic patio. The newer houses consist largely of modern bungalows. The majority of the people, however, are primitively housed.

Three-fourths of the people of Porto Rico live in rural districts not even classed as villages, and very few own any land. Most of them live on the land of some plantation, the great majority in thatched huts, which they themselves build from material on the plantation. So long as they work for the landowner they may have possession of the huts and are considered owners, which explains the census figures showing one home owned for every 10 inhabitants of the island. The classification of virtually all of these homes as free from mortgage does not indicate a condition of general prosperity, but is due to the fact that these thatched huts are so cheap and perishable that they can not be mortgaged. The cost of a hut represents a small amount of material and a few days' labor, the total being valued at about \$20. As work in the principal crops is seasonal, many families are forced to migrate at the end of a few months, and their huts revert to the landowner. This system of housing the workers on the plantation brings the worker nearer to his work and is convenient for the landowner, as it gives him a greater measure of control over the services of the people. On the other hand, with no chance actually to own his home the worker has no sense of permanence and no incentive to improve or beautify his dwelling.

The commonest type of rural house is the thatched hut. The thatch is made of long, tough grass or from the leaves of the palm, the walls are of thatch or are made from the bark of the royal palm, and the floor is of boards raised 1 or 2 feet from the ground. The hut may be roughly partitioned into a sleeping room and a living room, but often it has only one room. The cooking is done on the ground in the rear of the hut, sometimes under shelter and sometimes in the open air. The furniture usually consists of a hammock or two instead of beds, and boxes for chairs. Sleeping on the bare floor is not uncommon. Dishes and utensils are made from gourds. When the huts are new they offer protection from heat and rain, and being raised from the ground they are easily kept clean. However, they are made from unsubstantial material, soon become infested with insect life, and deteriorate rapidly. The early Spanish priests in writing of the life of the Indians described them as living in huts of this character. The Spanish settlers who moved into the mountain districts—practically all of the inland dwellers are white—took up the same mode of life, and have continued it to the present day.

The houses built by the sugar plantation owners for the workers are usually made of more substantial material, sometimes of concrete but commonly of lumber, with zinc roofs, and are usually painted. Houses built by the landowners are placed close together, which makes improvements in sanitation essential. These houses are ordinarily given to the workers rent free. Recently some of the

sugar plantations have been erecting excellent one-family houses of concrete of two, three, or four rooms each. The multiple-family plantation houses which were formerly built in order to house as many people as possible with the least expenditure are no longer being constructed, but many are still in use.

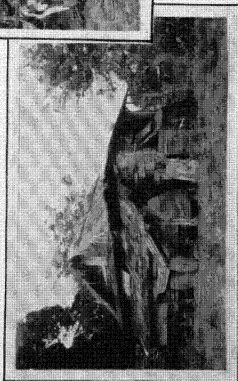
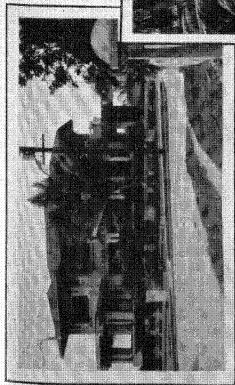
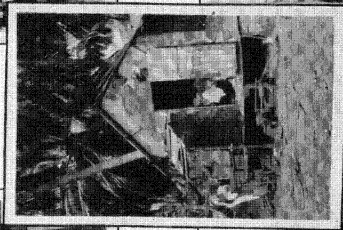
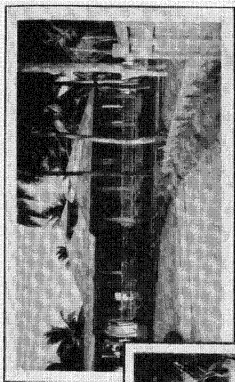
Left to himself, the jíbaro (country dweller) builds his hut away from other dwellings in the isolation which alone has made it possible for the people to exist without sanitary facilities. The development of villages means a general improvement in the mode of life. Every village has its school. Community life is started and contacts with the outside world are established. To bring to the scattered populations education, sanitation, medical service, and other essentials of modern existence, it will doubtless be necessary to make specific efforts to organize village life.

Whenever he has any land around his house, the Porto Rican usually plants some kind of garden, but very few make practical use of this land. The gay flowers around the huts are very attractive, but too often the garden consists wholly of flowers. There are several reasons for this. The people have not been educated to eat the green vegetables, which would make a most desirable addition to their present poorly balanced diet. Their sense of impermanence deters them from sowing where they may not reap, and they have no money to hire oxen for breaking the ground or to purchase proper implements for working the soil.

In the larger cities, notably San Juan, the tenement house of three, four, or five stories is found. Some of these old houses were formerly the dwellings of the wealthy. The rooms are large, the ceilings high, and the floors laid with fine Spanish tiles, but now only too often a whole family lives in a single room, cooking and washing in the central court. The usual dwelling of the poorer urban dwellers, however, consists of the one or two room shack, seldom larger than 10 feet square, made from cheap lumber, tin cans, and soap boxes.

Formerly the landowner in the city as well as in the country allowed laborers to occupy ground space without paying rent. In the cities and larger towns a system has grown up among the working classes of renting ground space on which to build their own shacks. In the past 20 years there has been a considerable movement of population from the rural districts into the cities. The landowners began to charge rent for ground space and have found it highly profitable. With the rapid changes in the cities land has acquired great speculative value, and so long as the owners can obtain large returns from renting they are unwilling to sell in small plots. This temporary and speculative condition has resulted in various evils.

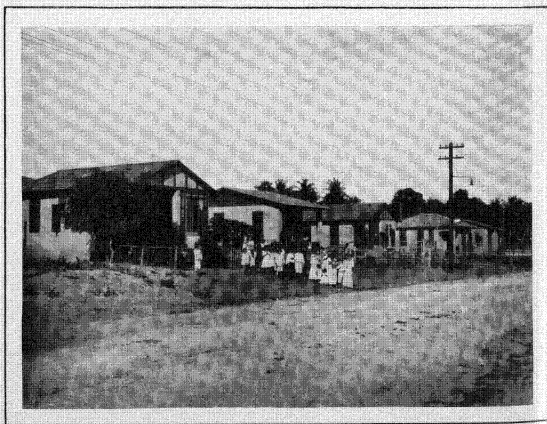




TYPICAL GOOD AND BAD HOUSING.



SUGAR-PLANTATION HOUSING.



HOUSES BUILT BY THE MUNICIPALITY OF SAN JUAN AND SOLD ON LONG  
TERMS TO WORKINGMEN.

The rents charged are often exorbitant. The land is frequently managed by agents and subagents, all deriving profits from the poor renter. The houses are frequently crowded together with virtually no provision for sanitation, cleanliness, or order. The householder usually rents from month to month with no security against unreasonable or even confiscatory increases of rent. He has no incentive to improve his dwelling, as only too often any improvement means an increase in rent. If the landlord wishes to gain possession of the tenant's house he has only to issue an order to vacate the premises, and the tenant must either move the house away or sell for what the landlord chooses to pay.

Many of the municipalities own considerable land within their limits. To meet the needs of the poorer people they began renting this in plots at low prices, and in various instances they permitted "squatting." From this situation the island has advanced to the beginning of a public policy with reference to housing.

In 1917 the legislature passed a law providing that on any public land within a municipality there should be erected houses for working people, which should be built in accordance with all sanitary requirements and rented reasonably or sold on a long-term basis. The city of San Juan has availed itself of this opportunity to construct a modern workingmen's suburb. When these houses were completed the city attempted to abolish certain insanitary sections, but the pressing shortage of houses made this practically impossible. In more than one instance the condemned houses, torn down during the day by the police, were put together again at night by the inhabitants. Aguadilla also has built a workingmen's district, and Ponce has recently adopted a similar project. A cooperative building society is helping the general housing situation by erecting for its members many houses of a more expensive type.

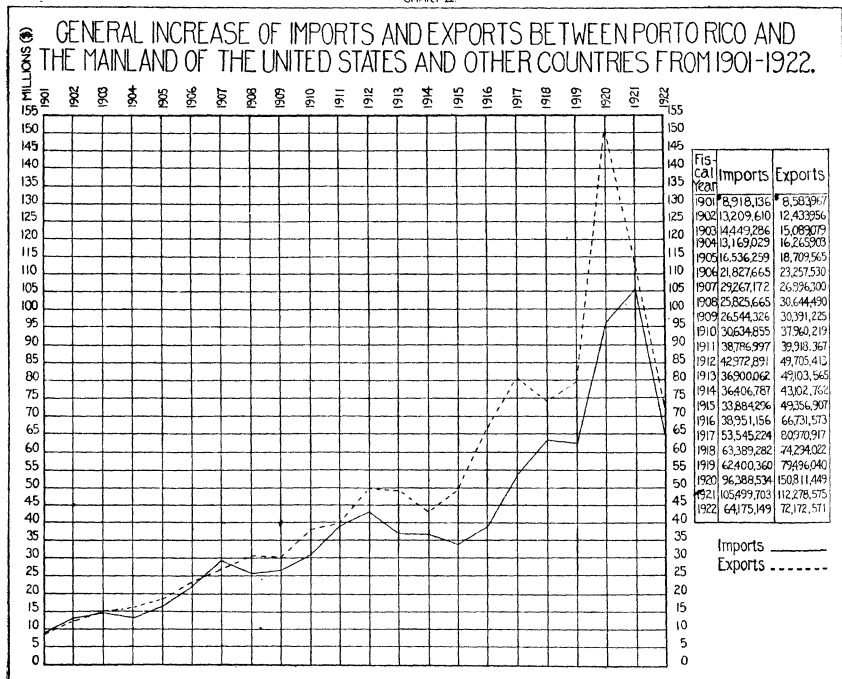
#### AGRICULTURE.

Porto Rico is essentially an agricultural country, and the great majority of the people depend for their living upon this type of work. In the past 25 years the general condition of primitive dwelling upon the soil has changed to one in which a large part of the land has been converted to the highly specialized cultivation of sugar and tobacco. This sudden evolution is graphically shown in the accompanying chart of imports and exports.

Before the development of sugar and tobacco larger quantities of sweet potatoes, yams, rice, corn, and bananas were grown, and the grazing lands were much greater. Some sort of food could be had for a little exertion, and money played a small part in the lives of the people. Most of the rural dwellers were poor to the point of

destitution, but they lived close to soil which produced food, where hospitality was the rule and the sense of ownership in the necessities of life not definitely established. With the development of sugar and tobacco, land values increased. Thousands of small farmers sold their lands<sup>10</sup> for prices which seemed high, but with the sale of their farms lost their means of subsistence and when their small capital was gone found themselves in the ranks of day laborers.

CHART II.



The situation has been rendered more acute by the fact that while the grazing and food-crop lands have been so much reduced the population has greatly increased.<sup>11</sup>

As the exports of sugar and tobacco have increased the importation of food has also increased.<sup>12</sup> Foods, such as bananas, which formerly could be obtained merely by a little exertion, have now become articles of commerce. The agricultural worker must have money to purchase

<sup>10</sup> The Porto Rican census of 1899, in which the cuerda (two-fifths of an acre) was used as the measure of area, showed 34,247 farms of less than 20 cuerdas (8 acres). By 1919 the number of farms of less than 10 acres had been reduced to 15,981, according to the United States census of 1920. The reduction in the number of farms owned by colored people was especially marked.

<sup>11</sup> The population of Porto Rico grew from 953,243 in 1899 to 1,299,809 in 1920, an increase of 346,566 in 20 years. Fourteenth Census of the United States, Vol. III, p. 1196.

<sup>12</sup> In 1920 Porto Rico imported 133,449,140 pounds of rice, 372,028 bushels of beans and dried peas, 30,182,518 pounds of meat and dairy products, and 29,383,671 pounds of dried fish.

his daily food, and unemployment means immediate privation and suffering.

Under existing conditions the cultivation of sugar and tobacco partakes more of the nature of industry than of that of farming. The development of these crops has taken place so rapidly that the transition has been accompanied by hardships difficult to overcome. Sugar is grown on the level lands around the edges of the island and tobacco in the inland valleys. For the harvest sugar requires approximately 150,000 workers and tobacco 40,000. For work between seasons the number of laborers required is far less. In periods of slack work during the season no occupation is open to agricultural workers in these districts on their idle days, and when these crops are harvested at least half of the laborers must make a complete change of residence in order to search for other work. Thousands of Porto Ricans have thus become migratory workers, with no homes and virtually no possessions. They are undoubtedly better off than the previous generation, but they have acquired new desires and higher standards of life. The education of children—impossible a generation ago—is now a possibility, but migratory life makes schooling difficult, and in the overcrowded condition of the schools the education of many children is completely neglected.

The development of sugar and tobacco has tended to the control of great tracts of land by a few individuals and corporations, in many instances by persons living away from the island. Congress attempted to check this tendency with a law prohibiting anyone from owning more than 500 acres; but sugar and tobacco plantations can be operated to far better advantage in large units, and it has been impossible to enforce the spirit of this law. In 1920 over one-third of the farm land was held in units of 500 acres or over.<sup>13</sup>

The situation in regard to coffee is radically different from that of sugar and tobacco. Coffee lends itself to small-farm cultivation. It is grown on hillside land which is comparatively cheap and the ownership of which is distributed among thousands of small proprietors. The industry in Porto Rico, as elsewhere, has been far from prosperous since the overdevelopment in Brazil threw out of balance the coffee industry of the world. In the past 10 years coffee exports from Porto Rico have decreased nearly 50 per cent, and among the coffee workers the utmost destitution exists.

Fruit growing is yearly becoming more important, particularly the growing of oranges, grapefruit, pineapples, coconuts, and alliga-

---

<sup>13</sup> Of a total of 2,022,404 acres of farm land, 201,694 acres were held in units of between 500 and 1,000 acres, and 514,796 acres in units of 1,000 acres or over. (United States census of 1920.) These figures include all land, improved and unimproved. The percentage of improved land held in units of 500 acres and over is virtually identical. In 1899 nearly two-thirds of the cultivated land was held in units of less than 40 acres. (Census of Porto Rico, 1899, p. 355.)

tor pears. These crops will provide more labor but little more food, as they are grown for the export market.

The total land area of Porto Rico is nearly 2,200,000 acres, of which 1,000,000 acres is essentially nonagricultural and is now either idle or abandoned to brush. Officially much of this is classified as "timber and brush land," but the amount supporting commercially valuable timber is practically negligible. Originally Porto Rico was a well-forested country, covered with laurel, cedar, satinwood, and other valuable woods; but 400 years of unregulated exploitation has brought upon the island the most acute timber and wood famine that any country of the Western Hemisphere has suffered. All wood-using industries of any size have disappeared, and the island is entirely dependent upon importations of lumber for building. Almost all the people rely upon charcoal for fuel purposes, and the scarcity of this is such as to cause general and widespread privation. Much of the now unused mountainous land was originally covered with forests, and under a well-directed policy of reforestation these areas could relieve the shortage of lumber and fuel and also furnish employment to thousands. A beginning has been made by the establishment of the Porto Rico Forest Service, to work in cooperation with the United States Forest Service. Mangrove forest lands along various sections of the coast and some mountainous, nonagricultural lands have been set aside as insular forests.<sup>a</sup> The mangrove is now being cut in a scientific manner and sold for fuel and other purposes, for which it finds a ready market. Tree nurseries have been started to provide stock for planting, and a considerable acreage has already been set out. To reach the general population an educational campaign has been started, chiefly through the rural teachers. In various towns the highways are bordered with trees planted by school children, and some school yards have been made into tree nurseries.

While sugar and tobacco are cultivated in an efficient manner under the direction of men technically well trained and equipped, general agriculture in Porto Rico has made comparatively little progress. Three-fourths of the people live in rural areas not even classed as villages. A large proportion of this rural population are illiterate.<sup>14</sup> A generation ago it was generally possible for them to satisfy their simple needs by raising a few products in a crude and inefficient fashion. To teach this scattered and uneducated people to produce food in wider variety for a greatly increased population on a decreased amount of land is a task for which no

<sup>a</sup> The public lands of Porto Rico include about 150,000 acres, most of which is mountainous or swampy or otherwise nonagricultural.

<sup>14</sup> A rural school census taken by the Porto Rico Department of Education in 1919 showed that 59,502 parents out of 84,546 were unable to read and write. The census did not include those living in the less accessible districts. (Report of the Governor, 1920, p. 419.) The United States census of 1920 gives the general rate of illiteracy for all persons over 10 years of age in the rural areas of Porto Rico as 61.6 per cent.

adequate provision has yet been made. The leadership in scientific agriculture has been taken by the experiment station established at Mayaguez by the United States Department of Agriculture. The College of Agriculture of the University of Porto Rico gives collegiate and subcollegiate courses, and its graduates are rendering important service. The Porto Rico Department of Agriculture reaches many people through lectures, pamphlets, and inspection, and under its encouragement many farmers' leagues have been organized. The Porto Rico Department of Education has a general supervisor of agriculture, and instruction in agriculture is given in a large number of schools. Home gardens have been introduced and now over 38,000 of them are under cultivation. This work received great impetus under the food-conservation campaign during the war, and the Junior Red Cross, which functions as a part of the school system, has given hundreds of prizes to encourage these gardens. The schools have the confidence of the people, and offer the most advantageous machinery for reaching the parents.

#### THE FIGHT AGAINST DISEASE.

The Porto Rican laborer has often been characterized as lazy and thriftless, and his production is usually rated at not over 50 per cent of that of a northern worker. However, those who have had opportunities for knowing the agricultural workers have learned that to a large degree actual physical unfitness is responsible.

The physical condition of a people is reflected, in a general way, by the death rate. The death rate of Porto Rico in 1920 was 23.3 per 1,000 population,<sup>15</sup> which was lower than the rates of earlier years but is nearly twice as high as that of United States death-registration area for the same year (13.1). For the last 10 years of Spanish rule, 1888-1898, the average death rate was 30.2; for the following 10 years, 1899-1909, the average rate was reduced to 27.3, and for the 10 years 1909-1919 it was 24.1.<sup>16</sup>

To lower the death rate calls for fundamental improvement in the mode of life of the people. Sanitation, more urgently necessary in a tropical climate than in colder countries, has never been understood by the masses. Twenty years ago most of the people were dependent for water upon streams or cisterns subject to contamination, and three-fourths of all dwellings had no provision for sanitary closets or outhouses. The cities have progressed rapidly in providing water and sewer systems, but such improvements require large public outlays and much remains to be done. To reach the rural inhabitants and give them the necessary instruction so that they will understand and continue to use the requisite sanitary measures after they are

---

<sup>15</sup> Report of the Governor, 1920, p. 6.

<sup>16</sup> Report of the Governor, 1919, p. 133.

provided, will take much time. In this the sugar plantations have helped very much, as the concentration of workers in camps has made sanitation imperative.

The majority of the working people of Porto Rico live upon a diet restricted to rice, beans, coffee, bananas, codfish, and a few starchy root vegetables—of which all the codfish and most of the rice and beans are imported, and consequently must be paid for in money. Only too often the food of the poorer families consists entirely of black unsweetened coffee and a few tubers. Practically all northern vegetables can be grown in Porto Rico, as well as those peculiar to the Tropics; but at the present time only a few varieties of vegetables are used, including virtually none of the green or leafy ones. This situation is serious for two reasons—thousands of small parcels of land which could produce food are now unused, and the health of the people is suffering from a badly restricted diet. It has been found difficult to teach the people to use vegetables. Home-economics instruction is helping in this direction, but it needs to be extended far more widely.

The medical profession of Porto Rico are awakening to the injurious effects of the one-sided diet, but they are handicapped by the fact that few, if any, scientific studies have so far been made of food values of tropical products, and material on the preparation of foods comparable to that at the disposal of northern physicians is not available to them. The importance of diet has not been emphasized and the people depend upon medicine, often patent medicine, under circumstances in which northern physicians would prescribe improved diet.

Yellow fever—once the scourge of the island—has been eliminated, and smallpox virtually so. Bubonic plague has appeared twice in 20 years, but has been controlled. Typhoid is now but little more prevalent than in the States.

Of general diseases tuberculosis stands first as a cause of death, with malaria, "rickets," and anemia<sup>17</sup> following in the order given. "Rickets" as it appears in the official statistics is not true rickets but usually marasmus or malnutrition, the confusion arising from the popular use of the Spanish term "raquítico" to include any wasting disease. The seriousness of these diseases is shown by comparing, for the fiscal year 1919-20, the death rates per 100,000 population in Porto Rico and those of the United States death-registration area:

	Porto Rico.	United States.
Tuberculosis .....	186.0	114.2
Malaria .....	121.2	3.6
"Rickets" .....	108.9	0.6
Anemia .....	79.0	( <sup>18</sup> )

<sup>17</sup> In Porto Rico the term "anemia" is used interchangeably with "uncinariasis" or "hookworm."

<sup>18</sup> Negligible.



The death rate from tuberculosis is shown to be far higher in Porto Rico than in the States; the death rate from malaria, unimportant in the States, is higher in Porto Rico than that of tuberculosis in the States, and that from "rickets" only slightly lower.

In many districts virtually everyone has anemia, and many deaths attributed to other causes are indirectly due to anemia caused by hookworm. In other sections malaria is equally prevalent. Far-reaching experiments and demonstrations in the eradication of these two diseases are being made under the International Health Board (Rockefeller Foundation). The antimalarial work is still in the experimental stage. The antihookworm campaign is being conducted by Dr. R. B. Hill, who with a staff of assistants and inspectors is demonstrating the eradication of anemia in the northwestern corner of the island.

Soon after the American occupation a campaign was made to eradicate hookworm, under the direction of Dr. (Col.) Bailey K. Ashford. At that time treatment was given to nearly 300,000 persons. Facilities were not available for the necessary follow-up work, adequate sanitation was not provided, and the populace became reinfected. However, the treatment had lasting beneficial effects, the disease is now not so virulent as previously, and fewer deaths<sup>19</sup> are now reported as due directly to anemia. In the present campaign, planned to cover a period of five years, sanitary conditions of living are required before treatment is given, and thorough follow-up work is done.

The improvement in general health and alertness of the school children who have been given the anemia treatment has been marked. Equal improvement has doubtless been made among the older population. The treatment has met with no opposition, and as it has progressed has gained the interest of the medical profession and the support of employers and the general public.

The general condition of inadequate or poorly balanced diet and overcrowded housing makes it particularly difficult for the health authorities to combat the high rate of tuberculosis. For tuberculosis patients the health department maintains a sanatorium at Ponce and a hospital at Yauco, and has recently erected a model sanatorium at Rio Piedras, for which many public-spirited citizens have contributed cottages. A visiting tuberculosis nurse, to work in cooperation with the Red Cross, has recently been procured in San Juan. These measures are helping to alleviate and to define the situation, but they are inadequate to control it. As an indication of the difference in resistance of Porto Ricans and continental Americans, Amer-

<sup>19</sup> In 1900 *uncinariasis* was responsible for 30 per cent of all deaths in Porto Rico, according to Doctor Ashford. The First Report of the Porto Rico Anemia Commission, pp. 127-128. Senate Documents, vol. 59. Washington, 1911.

ican priests working among the poor report that they have found it necessary to give the last sacrament to patients whom on the continent they would consider in early stages of the disease.

### INFANT MORTALITY.

The infant mortality rate of Porto Rico is much higher than that of any of the States. In 1922, out of every 1,000 babies born on the island 162 died before reaching the age of 1 year.<sup>20</sup> No special study of infant mortality in Porto Rico has ever been made. The studies made in various sections of the States have all shown that poverty and ignorance are accompanied by a high infant death rate; so the high rate in Porto Rico is to be expected, from the prevalence of illiteracy and poverty. To demonstrate this point the commissioner of health compiled separate figures for the poorest section of San Juan and for the districts where most of the people were able to provide fairly hygienic conditions. The infant death rate of the poorest section was found to be far higher than that of the other districts.

The main causes of the high death rate among babies less than 1 year of age are enteritis, congenital debility, infantile tetanus, "rickets,"<sup>21</sup> and acute bronchitis, most of which are indicative of the lack of proper care and food.

The first month of life is always the most critical and shows by far the highest death rate. After this period the death rate should decline rapidly. In the States the death rate for the second year is about one-fifth that for the first year. The rate in Porto Rico shows no such rapid improvement, being nearly two-fifths as high the second year as the first year. The largest numbers of deaths in the second year of life are ascribed to diarrhea and enteritis and to "rickets," indicating improper and inadequate food.

In 1920 among children under 5 years of age in Porto Rico 13,051 deaths occurred, which makes an average of over 65 deaths to each 1,000 children under that age.<sup>22</sup> The seriousness of the situation is indicated by the contrast between this rate of 65 and the corresponding rate of less than 27 for the United States death-registration area.<sup>23</sup>

---

<sup>20</sup> Birth registration is required by law in Porto Rico and is considered by the department of health to be nearly complete.

<sup>21</sup> For an explanation of the term "rickets," as here used, see p. 16.

<sup>22</sup> In the Fourteenth Census of the United States, Vol. III (p. 1199), the population of Porto Rico under 5 years of age in 1920 is given as 200,255. The figure for deaths of children under that age in 1920 in Porto Rico is taken from the Report of the Governor, 1920.

<sup>23</sup> On the basis of figures given in the Fourteenth Census of the United States, Vol. III, the population of the United States death-registration area under 5 years of age July 1, 1920, is estimated at 9,175,421. In Mortality Statistics, 1920, of the U. S. Bureau of the Census (p. 140), the figure for deaths of children under that age in the death-registration area during the year 1920 is given as 243,010.

Various factors in this high rate of mortality have repeatedly been pointed out by the insular health department. The island has not enough physicians<sup>24</sup> to meet the demand for medical services, and still the people, as a whole, can not pay even for what services they receive. Traditionally confinement cases have been left to midwives, and owing to the general shortage of medical service the physicians have taken over little of this work. Most of the midwives are illiterate and have had no training, and it has not been possible to enforce standards of midwifery. Expectant mothers are not given the necessary care and instruction. On account of these conditions the number of deaths of mothers from conditions related to pregnancy and childbirth is much higher than in the States.<sup>25</sup>

On account of the inability of mothers to nurse their children it is frequently necessary to feed the babies artificially at an early age. The mothers have little knowledge of proper methods of infant feeding, and milk is scarce, expensive, and frequently adulterated. In view of the difficulty of educating the adult population, the insular health department has recommended the instruction of school-girls in the care of children and the hygiene of infancy. On the subject of the serious problem of milk the following is quoted from Dr. Jaime Bagué, of the Insular Experiment Station of the Porto Rico Department of Agriculture and Labor:

Milk is the foundation of children's welfare. The whole building up of the health and vitality of man depends on the amount of milk that he may obtain in his childhood. This is particularly so in the tropical climates, where light foods are in order all the year around. The milk situation in Porto Rico deserves careful study, because the children of the island are not getting all the milk that they need for their proper development.

*Agricultural conditions affecting milk supply.*—To understand the present milk situation we must review, in a few lines, the agricultural status of the country. From time immemorial sugar cane, tobacco, and coffee have been the mainstay of our farms. Together with these crops, big live-stock enterprises were scattered all over the island, and we were supplying all the milk and nearly all the butter and cheese that the inhabitants of the island were consuming. We used to export our surplus supply of animals, and we provided the Cuban market with plenty of steers for purposes of slaughter.

With the advent of the American flag quite a change took place in the agricultural activities of Porto Rico. Promoters from Wall Street started to push the sugar interests of the country; factories were established; and, little by little, our pastures faded away to give place to the big sugar-cane planta-

<sup>24</sup> Figures given in the American Medical Directory (published by the American Medical Association), 1921, as to the numbers of physicians in the States and Porto Rico indicate that the island has less than one-fifth as many physicians, in proportion to its population, as have the States.

<sup>25</sup> Mortality Statistics, 1920, of the U. S. Bureau of the Census (p. 112), and the Report of the Governor of Porto Rico, 1920 (the latter giving statistics for the fiscal year 1919-20), show the ratio of deaths from puerperal causes to total births and to total population as follows: Per 1,000 births, Porto Rico 9.1, the United States birth-registration area 8; per 100,000 population, Porto Rico 35.6, the United States death-registration area 19.2.

tions. Our live-stock population has been reduced slowly and steadily. A study of the following statistics is illuminating:

*Table showing the actual increase in inhabitants and cane lands as compared with the decrease in live stock in Porto Rico.<sup>1</sup>*

Census year.	Cane lands (acres).	Pasture lands (acres).	Number of cows and helpers.	Number of inhabit- ants.
1899.....	21,503	450,834	104,538	953,213
1910.....	145,433	15,826	62,298	1,118,012
1920.....	227,815	20,409	61,864	1,299,809

<sup>1</sup> From data furnished by the United States census.

The above figures need no further comment. They speak for themselves.

The decrease in live stock is in sharp contrast with the increase in population. If we consider that the city of San Juan has a population of 70,707 inhabitants and that only 15,000 liters (estimated) of milk come into the city daily, it is an outstanding fact that the per capita consumption of this food is very low. The report of the commissioner of health for 1918 makes this per capita consumption come as far down as 31 cubic centimeters.

The lack of supply and the increase in the demand caused an increase in price from 4 cents per quart, in 1875, to 25 cents in 1922, or an increase of 21 cents in 47 years. This increase in price is coupled with a heavy increase in the importation of condensed and evaporated milk, amounting to \$504,330 in 1919.

*Handling and sanitation of milk.*—It is impossible to study the present milk situation without taking into consideration the infant mortality reports. A perusal of the annual report (1917) of the commissioner of health, Dr. W. F. Lippitt, shows that the diseases of the digestive apparatus are responsible for the high rate of mortality among children. Doctor Lippitt lays particular stress on the fact that "the bad quality of the food supply" is the main cause of this alarming condition.

Dr. A. Ruiz Soler, commissioner of health, in his report for 1918 corroborates Dr. Lippitt's statement and calls special attention to the scarcity of milk, the temptation to adulteration caused by this scarcity, and the necessity for cleanliness and sanitation in dairies and depots for the sale of milk.

To meet the need for an adequate supply of good milk we should adopt the following essential measures:

(1) Systematic improvement, through careful breeding, of our live stock to raise our average daily production of 3 quarts per cow to 15 or 20 quarts.

(2) Scientific feeding and care of the herds, emphasizing tick eradication, on which the Department of Agriculture of Porto Rico is at present working.

(3) Scientific, sanitary methods of handling milk to avoid contamination.

(4) Instruction of the people in the right use of milk and the many ways in which it may be prepared.

(5) Encouraging every farmer to keep a few cows to balance the agriculture of the island, which now is strictly one-sided.

## PUBLIC MEDICAL SERVICE AND HOSPITALS.

In the attempt to eradicate disease over 50 public hospitals, some mere shacks, have been established in the past 20 years, and medical service, free to the poor, has been instituted. Most of the medical

work on the island is done as charity by the ill-paid municipal doctors. The working class does not and can not pay for medical services. Until 1922, excepting for the period 1914 to 1917, the municipal hospitals and services have been under the control of the separate municipalities, without central supervision. Of the difficulties and shortcomings of this work the commissioner of health says in his report for 1920:<sup>26</sup>

The services rendered by the municipalities to the poor are: Medical assistance, medicines to the sick poor, first-aid stations, help to the sick poor, and hospitals.

*Medical assistance.*—The work of the physician is difficult because, first, he lacks a list of the poor of the municipality so as to avoid that persons who are not indigent receive the services that are only for the needy; second, the lack of hospitals, which does not permit the gathering in one place of serious cases that require the constant care and frequent observation of the physicians; third, the poor conditions of the first-aid stations, not provided with the necessary equipment and materials, with the consequent lack of facilities to cure even the slightest wound without loss of time and without danger of infection; and, fourth, the meager amounts appropriated for medicines oblige the physician to consider the cost of every prescription, so that the appropriation is not exhausted before the end of the year, when the materials are supplied by administration, or, if supplied by contract, so that the contractor does not deliver a smaller quantity than that prescribed or alters the formula, as it appears to occur frequently. These deficiencies are the reasons why the position of charity physician has excessive work and with few results.

*Hospitals.*—The hospital conditions in Porto Rico are deplorable. The buildings are not suited to the ends for which they are used, nor are they fitted with the most essential equipment, sufficient material, nor are well attended. Everything in them shows poverty, filth, and carelessness. As a rule, such are the conditions of these charitable establishments all over the island.

*First-aid stations.*—In each town there is a first-aid station in general established in the dirtiest room of the city hall. These first-aid stations are not intended only to give attention to the healing of wounds and other emergency cases, but also to receive sick persons and to serve as a refuge for invalids. These establishments, as a rule, lack all conveniences, light, ventilation, cleanliness, means for the sterilization of the instruments used in the minor operations performed, antiseptic material, water, etc. Very few first-aid stations are properly installed and equipped and well attended.

*Administration of medicines.*—The distribution of medicines to poor people in each municipality is effected either by a contractor or by the administration. By means of bids, the pharmacist engages to provide all the medicines prescribed by the doctor to the sick poor for the sum appropriated in the budget, except in some cases in which a limit of a certain number of prescriptions a day is fixed. The service in this form seems to be more economical for the municipality, but it has certain troubles. The medicines are prepared very hastily, with very little care, and as a rule are delivered in dirty receptacles uncovered. The appearance is such that sometimes the patient throws the medicine away instead of taking it.

In regard to the quantity, the poor often go back to the doctor telling him they have not received what he prescribed.

<sup>26</sup> Report of the Commissioner of Health, 1920, pp. 148-149.

Malaria patients return day after day to the doctor begging for medicines and are never cured, although quinine is prescribed in proper doses. For these reasons the poor have lost faith in the medicines provided them.

When the supplying of medicines is done by the administration the local drug stores, if the municipality has not its own pharmacy, prepare the prescriptions authorized or approved by the mayor at the regular prices, but in this way the appropriation is soon exhausted.

There is a widespread negligence for the sufferings of our people. Much of the population is born, grows up, and dies without having received any or scarcely any medical assistance.

The country people of Porto Rico almost everywhere have no help from science in their hours of pain and danger from illness, the result being many premature deaths, unnecessary, completely avoidable.

Good will is not wanting, the kindly feeling of the physician is of no avail. He, too, is a victim of the present state of things. He can not adequately attend to such a countless number of persons without adequate means nor those of surgery in such an environment as the homes of the poor can show without medicines. He receives a meager pay.

A few excellent hospitals have been established in Porto Rico by organizations in the States and have made notable contributions by improving the standards of nursing. Among these are the Presbyterian Hospital at San Juan, St. Luke's (Episcopal) at Ponce, and the Congregationalist Hospital at Humacao. On the whole, nursing as a profession has received little recognition in Porto Rico. Numbers of nursing sisters who had received training abroad have come to the island as members of the Servants of Mary and other Roman Catholic orders. These sisters have rendered intelligent and devoted service in their hospitals of limited capacity and also in doing bedside nursing among all classes of people. Porto Rico is mainly Catholic, and the opportunities offered by the church to those who wish to devote their lives to nursing have attracted the more earnest class of applicants; but the work of the sisterhoods has not served to improve the training and status of nurses in secular institutions. The requirements of applicants for nurses' training have been low. In many cases nurses have entered training with no more than elementary education, a foundation on which it is not possible to give the technical training of high-grade hospitals. Some years ago the Municipal Hospital of San Juan had a well-organized training school, and the influence of its work is still felt.

Beginning with the year 1921-22, the advanced classes in home economics in the public schools have been given instruction in home hygiene and care of the sick, and it is hoped and expected that this introduction to the subject of nursing may lead a better-educated group of young woman to enter nurses' training. Pioneer work in public-health nursing was developed during Children's Year, under the Red Cross, and its extension will undoubtedly bring into public-health activities the fine class of public-spirited women whose only avenue for service hitherto has been the schools.

## MANUFACTURES.

Largely because of the absence of fuel, very little manufacturing has been developed in Porto Rico. What are classed as the main manufactures are the finishing processes in sugar, coffee, and tobacco. The sugar mills, which convert the cane into raw sugar for shipment, employ the largest number of persons. They are located in the center of the cane fields and their season corresponds with the period of the cane harvest. The sugar mills of the island employ a maximum of about 10,000 people in February and a minimum of about one-fourth that number in July. Practically no women and no boys under 16 are employed in the sugar mills. The customary working-day is 12 hours, the work being a continuous process.

The manufacture of cigars and cigarettes and the stripping of tobacco for export ranks second, employing nearly 10,000 persons in September and about 1,000 in March. This work consists of the sorting and preparation of tobacco leaves and the making of the cigars and cigarettes, all of which is handwork. Almost all of this work is done in a few large establishments in the cities. There still exist many small shops where a few workmen make cigars, but the tendency is toward standardized production in large units. In the past 10 years, although the value of the product has increased<sup>27</sup> the number of workers has decreased,<sup>28</sup> the proportion of women employees has increased,<sup>29</sup> and the general length of the working-day has been increased from 8 hours to 9.

Practically all the coffee raised goes through a partial or complete process of cleaning, hulling, polishing, and grading to prepare it for the market. Formerly this work was done in small establishments, but the use of modern machinery has concentrated most of the work in a few large plants. Women workers have superseded men to a great extent, and the general working-day has been reduced from 10 hours to 8. A maximum of about 2,000 persons are employed in December and practically none in August.

The remaining industries of Porto Rico consist chiefly of the necessary bakeries to supply bread and similar food products, newspaper and other printing, and miscellaneous and scattered workshops.

In addition to the recognized manufactures, during the past few years a large number of women and girls have been engaged in the making of blouses, underwear, and handkerchiefs, and other handwork. This work is given out by contractors from the States through

<sup>27</sup> Value added by manufacture: 1909, \$4,002,848; 1919, \$5,094,993. United States census of 1920.

<sup>28</sup> Average number in 1909, 7,025; in 1919, 5,098. United States census of 1920.

<sup>29</sup> In 1909, 17.9 per cent of all workers were women; in 1919, 29.7 per cent. United States census of 1920.

agents and subagents located in the towns and mountain villages. It consists mainly of hemstitching and the plain sewing required in blouse making. The number of women employed is dependent upon the general demand for moderate-priced handmade garments, and the demand fluctuates widely. A change in fashion stops one variety of work and may or may not create another variety. No accurate record of the number of workers is available, but estimates have ranged from 20,000 to 30,000. Earnings vary with the individual and the class of work; workers have reported earnings in some cases as low as 15 cents and in others as high as \$1.50 a day. Most of these women and girls, apparently, receive about 40 or 50 cents for a full day's work. Hours are also indefinite, as this needlework is done at home at times when the women are not engaged in their housework and is subject to irregularity and interruption.

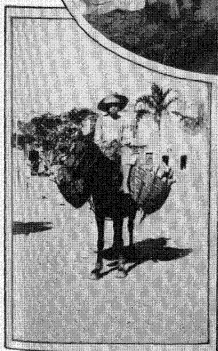
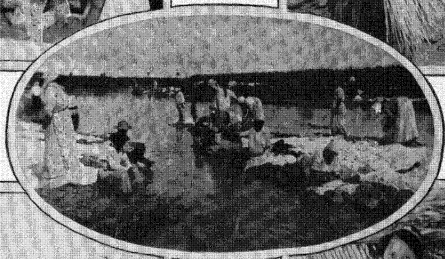
For a long time fine needlework has been taught by the Catholic sisters to a limited number of girls, and the various Protestant missions have also taken up this instruction. Recently the public schools have added such classes in an endeavor to raise the general standard of sewing and to teach an occupation by which girls can earn their living.

The making of inexpensive embroidered underwear has not been developed as it has been in the Philippines. While comparable figures as to earnings are not available, it appears that the prices paid for work are higher in Porto Rico than in the Philippines. Porto Rico has the advantage of being fairly close to the New York market, so that it is practicable there to give out work of a more changeable fashion.

The teachers of needlework in the convents and missions have made a specialty of Spanish drawn work, but the market for elaborate work has not been well developed. Lace making also has been taught by the sisters, the missions, and the schools; but no large amount has been made, as the work requires much skill and the earnings are less than for other forms of fine handwork.

The weaving of hats and baskets provides employment for a limited number of people in certain sections of the island where the raw materials are procurable. Some of the districts have introduced after-school classes in this type of work. The native industries, however, are unstandardized, and the markets are not dependable. Up to the present time these articles have been sold mainly to tourists as souvenirs and have not been produced as articles of commerce. An attempt was made to manufacture the finer types of baskets made in the Philippines, but the raw materials were not at hand and the importation and cultivation of the necessary plants involved more time and money than were available.





PRIMITIVE METHODS OF WORK.



## WAGES.

The wages of common field labor, which during the war rose as high as \$2.50 a day, were reduced by 1919 to a level of 50 cents to \$1 a day. From this point they rose in 1922 to \$1 or \$1.25. Wages in the cities have also been lowered from the war-time level, those for the skilled trades averaging in 1922 about \$3 a day. These reductions were accompanied by numerous strikes, but the large amount of unemployment made it impossible to maintain better rates of wages.

In 1919 a minimum-wage law was enacted by the legislature, fixing a minimum of \$1 a day for women 18 years of age and over. The main purpose of the law was to meet the problem of the low wages paid in the manufacture of blouses and other handwork. The intent of the law has been evaded by the adoption of the home-work system, which renders it very difficult to determine the earnings of women in relation to hours. In general, work has been slack and the tendency of wages has been to drop below the legal minimum. The bureau of labor has prosecuted offending employers and secured convictions and small fines in a large number of cases, but with its limited staff it has not been able to maintain the legal standard in the face of the generally lowered wage levels.

## POVERTY AND CHARITIES.

Poverty is a condition far more general in Porto Rico than in the States. There are persons of wealth on the island, but they represent a very small minority. Only 1 person in 269 in Porto Rico paid an income tax for the fiscal year 1921-22, whereas 1 person in 29 in the States paid one for the calendar year 1921.<sup>30</sup>

Naturally, poverty does not entail the same hardships in the Tropics as in a northern climate, but the general state of poverty in Porto Rico renders difficult every effort for progress. Every crop failure or disaster threatens starvation, so narrow is the margin of resources. In 1898, a few months after the American occupation, a storm which destroyed the crops of the eastern end of the island made it necessary for the Government to care for 250,000 persons. The earthquakes of 1918, while not severe in comparison with other earthquakes, caused damage, much of which the owners were unable

<sup>30</sup> The income-tax law of Porto Rico is not identical with the Federal law, but it allows exemptions similar in effect, so that the income statistics of the island may be compared with those of the States. Both laws make a personal exemption of \$1,000 for a single person. The Federal law allows a personal exemption of \$2,500 for a married person living with wife or husband, or for a head of a family, with further exemption of \$400 each for other dependents. The Porto Rican law allows personal exemption of \$2,000 for a married person living with wife or husband, or a head of a family, and \$200 each for other dependents. The percentage of the population paying a tax in Porto Rico is so much less than the percentage in the States that any difference in the effects of the exemptions would not alter the general indications.

to repair without government aid. The influenza epidemic closed the schools. A storm in the western end of the island in 1921 brought thousands to the verge of starvation. In 1922, a fire which destroyed a block of houses in San Juan left over 400 persons dependent for months upon the charity of the municipality, the Army, and the Red Cross.

In everyday life the poverty of the mass of the people is shown by the practices of selling food by the cent's worth, of cutting loaves of bread into penny pieces, and of pricing eggs individually rather than by the dozen.

The northern visitor in Porto Rico is shocked at the institution of begging. The mendicants have their stations along the sidewalks or their regular routes through offices, restaurants, and residence districts. Saturday is "Beggars' Day." Shops and individuals put aside small funds of pennies, and the beggars make their rounds with businesslike regularity. The Latin spirit naturally tends to personal rather than organized charity, but begging has reached such proportions that its control has been repeatedly discussed—so far with little result, as the prohibition of begging could not be accomplished without fundamental economic and industrial changes.

The public charities maintained by the insular government consist of the Boys' Charity School, with accommodations for 400 boys; the Girls' Charity School, with a capacity of 300; the Hospital for the Insane, which cares for 500; the Leper Colony, which shelters 33; and the Asylum for the Blind, accommodating 100. In 1921 the cost of operating these institutions was \$346,358, or 27 cents per inhabitant of Porto Rico, and public funds appropriated for the care of tuberculosis patients amounted to about \$100,000.<sup>31</sup>

Almost every group which meets for any purpose in Porto Rico takes upon itself some charitable work. Wherever a few people gather together some one usually brings up cases of persons in need of employment or other assistance. How much assistance and charity are given in this manner is beyond computation. This informal handling of employment and aid has doubtless delayed the formal organization of such services. Also, the Catholic Church, to which most of the people on the island adhere, has taken upon itself much charitable work, and various orders of priests and sisters are working in many of the poorer districts. Missions have been established by several of the Protestant denominations, which, in addition to the hospitals and classes in handwork referred to elsewhere, conduct kindergarten and other school classes, dispensaries and clinics, and district visiting, and during the past year have added public-health

---

<sup>31</sup> Report of the Governor, 1921, p. 206.

work and recreation. The American Red Cross started organized family case work in San Juan in 1921, but has found it necessary to restrict relief work to the families under the supervision of its mothers' and infants' clinics.

The Junior Red Cross, organized by the department of education in 1917, has headquarters at the department, and school officials act as its executive board. In each district the supervisor of schools is chairman of the local chapter. The Junior Red Cross thus functions as an official part of the school system, utilizing the well-organized school machinery and concentrating under one head the non-academic activities of the schools. Most of the membership dues are expended by the central board to promote activities supplementary to school work. In the past the "Juniors" have administered charity to many persons in various sections. Much was accomplished in an individual way, but the Junior Red Cross activities have now been restricted to definite lines of constructive work, such as dental clinics, child-health centers, school gardens, and loan scholarships.

A few years ago the school lunch—"comedor escolar"—was introduced, and so many children were found to be in actual need of food that the movement has spread very widely. The Junior Red Cross, the Catholic Church, the Masons, and other organizations have helped purchase equipment, and the current expenses are met by public<sup>32</sup> and private subscriptions. Motion-picture theaters often give benefit performances, and many other entertainments help to keep going this important aid to the schools. The Zapato Escolar—Shoes for School Children—referred to elsewhere is also of fundamental aid to the schools. Both of these charities for school children have been organized and are administered with the assistance of the teachers in a well-systematized manner. The food and shoes are given to a child only in accordance with the teacher's report on the condition and the needs of the family. As so much of all community progress in Porto Rico is effected through the school system, the organization of charity may well come about as an outgrowth of these organized school charities.

Undoubtedly the money and effort now expended on general charity do not bring the utmost results. Better system and organization are necessary, but methods which have been found successful in the States will not necessarily prove applicable unless modified with understanding of the different conditions of Porto Rico and par-

---

<sup>32</sup> The insular government appropriates \$25,000 a year to assist the local school boards in this work, and additional funds are given by many municipalities.

ticularly with appreciation of the existing great resources of kindness and personal ministrations.

### JUVENILE COURTS.

According to law the juvenile courts of Porto Rico have jurisdiction over all dependent, neglected, or delinquent children under the age of 16, and jurisdiction over children who have come before the court continues until they become 21 years of age. The juvenile courts (established in 1915) are not separate courts, but are juvenile sessions of the seven district courts of the island, and the judges and officials of the district courts serve as officials of the juvenile sessions. The prosecuting attorneys and the judges of municipal courts are ex officio probation officers, and the district judges have power to appoint other persons as special probation officers. As the seven district courts of the island have jurisdiction over rural areas as well as cities and towns, all children in Porto Rico are within the jurisdiction of the juvenile courts. The provisions of the act are liberal, and no criminal precedent is established against children appearing before the court.

The difficulties in the operation of the law are that the district courts are already overworked and can ill spare the time for juvenile sessions; the prosecuting attorneys can hardly be expected to develop so different a field as probation, in addition to their other duties; and the facilities for caring for children who have come before the courts are discouragingly inadequate. An industrial school for delinquent boys has been established at Mayaguez but is too small to accommodate all the boys who should be committed to such an institution. Many times it is necessary to keep boys in penal institutions—although in wards separate from the adult prisoners—because of lack of any other institution to which they can be sent. For delinquent girls there is no institution. The attorney general's office has placed some delinquent girls in a separate ward of the women's jail at Arecibo, and the department of education has provided teachers of handicrafts as well as of elementary school subjects. The arrangements are excellent, but quarters are limited and facilities are far from adequate to meet the situation. The police, the juvenile courts, and the attorney general's office are constantly embarrassed by the lack of facilities needed to take care of urgent cases. Neglected and dependent children can be committed to the Boys' Charity School and the Girls' Charity School, but there also accommodations are far from adequate. There is no detention home in connection with any of the district courts.

In most of the cases brought before the juvenile courts the charges have been petty theft, neglect, and abandonment, offenses which are

largely traceable to poverty. Many of the children involved were homeless, and about one-third were illegitimate; about half had never attended school. The responsibility of parents for illegitimate children has not been definitely established, decisions on this point being in conflict.

Considerable interest on the part of public-spirited men and women has been shown in the development of the juvenile courts and particularly in that of probation work. It is hoped that regular probation officers will soon be appointed, or that the volunteers who now assist at times in investigations and probation work will become a regular part of the court and will also bring public opinion to bear upon the matter of providing the adequate facilities for children for which the attorney general's office has been asking year after year.





## ACTIVITIES OF CHILDREN'S YEAR.

The second project included in the Children's Year program—that of cooperating with existing agencies in Porto Rico to stimulate activities for children—was undertaken by the Children's Bureau in conjunction with the Porto Rico Department of Education and the American and Junior Red Cross. Much general work was done in connection with various groups, but the specific activities of the year consisted of (1) the summer fresh-air camp, conducted by Miss Beatriz Lassalle, the expenses of which were paid by the Junior Red Cross, with assistance from the American Red Cross; (2) the encouragement of playgrounds, games, and athletics for boys and girls by specialists on the bureau staff, continuing through the year; (3) the introduction of health teaching in the schools by two Porto Rican teachers on the staff of the Children's Bureau, who worked practically throughout the school year; (4) the physical examination of school children by the municipal school authorities of San Juan; (5) the extension of dental clinics by the Junior Red Cross; (6) the introduction by the American Red Cross of mothers' and infants' conferences under the direction of Miss Kathleen d'Olier; (7) a campaign for the prevention of blindness by the bureau staff in cooperation with the National Committee for the Prevention of Blindness and the Porto Rico Association for the Blind; (8) the creation of the child-hygiene division of the Porto Rico Department of Health; (9) the celebration of Baby Week in San Juan by the bureau staff in cooperation with the Woman's Civic Club of San Juan, the municipal officials, the American and Junior Red Cross, the United States Army, and various other organizations; (10) the experiment made by the Junior Red Cross of the treatment of children in the rural schools by two traveling physicians; (11) a survey of homeless children in San Juan, Ponce, Mayaguez, and other sections of the island by Miss Lassalle, with the cooperation of the insular police; and (12) a survey of abandoned mothers made by the bureau in cooperation with the Woman's Christian Temperance Union.

For invaluable suggestions and assistance through the year the bureau staff was indebted to the following board of counselors:

Hon. Juan B. Huyke (chairman), commissioner of education.

Mrs. María A. de Pérez Almirot, president Woman's Civic Club.

Miss Kathleen d'Olier, supervisor American Red Cross Nursing Service.

Miss Rosa González, superintendent Presbyterian Hospital.

Mrs. Milagros Benet de Mewton, president Woman's Suffrage League.

Manuel V. Domenech, president Rotary Club.

Manuel Fernández Juncos, author and poet.

Dr. A. Fernós-Isern, president Porto Rico Association for the Blind; director of school hygiene, department of education, San Juan.

Dr. José Gómez-Brioso, Porto Rico Department of Health.

Hon. Salvador Mestre, attorney general.

Hon. Martín Travieso, mayor of San Juan.

Carlos Vicente Urrutia, superintendent of physical education, Porto Rico Department of Education.

Rev. Padre Vassallo.

Francisco Vizcarrondo, chairman Junior Red Cross.

### VACATION CAMP.

The first vacation camp for children in Porto Rico was conducted by the Junior Red Cross, under the direction of Miss Beatriz Lassalle, in Barranquitas during July and August, 1921. A hundred girls and boys from the poorer district of San Juan, selected by the nursing service of the American Red Cross as being most in need of a vacation in the mountains, attended this first camp.

Porto Rico is fortunate in having within one or two hours' ride from any point of the island mountains high enough to afford a complete change of air. This first experiment in camping was made in cooperation with the school authorities of Barranquitas, who permitted the use of the schoolhouse as a dormitory and the school lunch accommodations as kitchen and dining room. Several teachers assisted Miss Lassalle in the care of the children. The American and Junior Red Cross provided clothes and shoes for all children. Physical examinations were given before the children left for camp, and the local physician and dentist cooperated by attending the minor ailments which developed in camp.

This experiment was beneficial to the children and valuable as a pioneer effort. Experience with the obstacles encountered will assist in directing future camps. One object of the camp was to try the effects of a better-balanced diet than is customary among the poor, particularly the addition of more green vegetables. In this the camp was not successful, as practically no green vegetables were procurable in the district and what could be bought were very expensive. What the children wanted was bread and coffee in the morning and rice, beans, and bananas for dinner and supper. The mountain air gave them such appetites that the facilities of the kitchen were taxed to the utmost to prepare enough of these foods, and the experiment in adding green vegetables to their diet was postponed. Considerable milk was given them, as well as soups, eggs, and meat. Many of the children came from families so poor that they had never had enough food, and their improvement in health after only a few days was plainly noticeable.

The use of school buildings as dormitories was found to be undesirable in dealing with children who have not been taught careful habits.

### HEALTH TEACHING.

Health teaching was introduced into the public-school system of Porto Rico during Children's Year by two Porto Rican teachers on the staff of the Children's Bureau, who taught health as an official part of the school program in the districts of Bayamon, Catano, Ponce, Quebradillas, Comerio, and a small section of San Juan.

The work of these teachers was carried on in Spanish, as the great majority of the children reached were in the first four grades of school, in which Spanish is the medium of instruction. These health classes were given in all the grades from first to eighth and in some districts as far as the tenth. The ground covered was, in general, that outlined in the bulletins on health teaching issued by the United States Bureau of Education, with certain modifications of emphasis required by local needs. In the development of special points of emphasis the bureau received valuable assistance from Dr. (Col.) W. F. Lippitt, commissioner of health; Dr. A. Ruiz Soler, former commissioner of health; and Dr. (Col.) Bailey K. Ashford, head of the Porto Rico Institute of Tropical Medicine and Hygiene, under whose direction was carried out the first public-health campaign for the control of hookworm on the island.

"The Rules of the Health Game," in Spanish, were given to each child in the schools on a card on which were noted the child's height and weight. In translating these rules only one modification was made—that of changing the "bath at least once a week" to "daily bath." The Porto Ricans are an unusually clean people. Along every stream women are to be seen washing garments and bleaching them in the sun, and dwellers in little huts hundreds of feet above water think nothing of making the difficult descent to the river to bathe. In fact, bathing is so frequent and cleanliness so thoroughly the rule that in the local idiom one takes a bath "for refreshment" and not from the necessity of cleansing one's self.

Classroom weight charts were posted in each schoolroom, and the interest of the teachers and children was enlisted in repeating the weighing at monthly intervals. Subsequent inspection showed that the weighing was continued, and once the children's interest in reaching the "ideal" weight was aroused this matter no longer required urging.

Scales have been purchased for some of the larger city schools, but not for the smaller city schools nor for schools in the towns and rural districts. The merchants can always be counted upon to cooperate in any work pertaining to the schools, but their scales are not always

suitable for weighing children. No general campaign for weighing and measuring children can be undertaken until proper scales are provided.

The health teachers gave general instruction as to personal hygiene, diet, sleep, elimination, and play. In this great care and patience were necessary in order to overcome such superstitions as that of the dangers of night air. Most Porto Ricans sleep with all the doors and windows closed, and the task of teaching the children and their parents to have fresh air at night was no simple one. The teachers also emphasized the need for drinking more milk, and, for the purpose of increasing the milk supply, the care of goats. The chief veterinary inspector assisted in this work by preparing a simple leaflet on the milk goat (*la cabra de leche*). The chief of the experiment station at Rio Piedras has made important experiments in the breeding of goats, and his experience in improving the breed of goats in Porto Rico will be made available to the schools.

The care of the teeth was particularly emphasized by the health teachers through toothbrush and dental-floss drills. Teeth have been greatly neglected in Porto Rico. It is not uncommon to see young people with no front teeth, and among the poor the possession of more than a very few teeth in later life is unusual. The common habit of chewing a stick of sugar cane, as well as inadequacy of diet in general, is probably responsible for much of this loss of front teeth. The poorer class do not clean their teeth and never have had toothbrushes.

The most troublesome problem in health teaching was to procure toothbrushes. The attempt was made to have the children provide their own as far as possible. Brushes were bought at wholesale prices (6 and 7 cents) and sold to the children on the installment plan, a cent at a time. Where the children were too poor to buy them, the Junior Red Cross assisted. In certain districts poverty was so widespread that three-fourths of the pupils could not buy their brushes.

Handkerchief drills, which seemed to be as much needed as toothbrush drills, were given in all the grades.

In addition to their specific work the health teachers assisted the people in the various districts to develop other activities for the benefit of children. In Bayamon they helped in conducting the weekly baby conference. This was held in a building adjoining the school and was very much a school activity. Interesting the children in the care of the babies spread the influence of the baby conference and promoted closer relations between the parents and the school. The physicians of the city became interested in the health work and volunteered one day a week for physical examinations. These examinations proved particularly important, as a serious prevalence of trachoma was discovered. The insular department of health

took charge of the situation and prevented what might otherwise have been a dangerous spreading of the disease.

In Quebradillas the physician in charge of the International Health Board's demonstration of hookworm eradication had spread the doctrine of sanitation. The town was conspicuously clean. Hookworm, which had once been found in over 86 per cent<sup>1</sup> of the inhabitants, had been virtually eliminated, and the schools were noticing the improvement among the children in alertness and general health. Health teaching was made easier by this foundation in sanitation, and the health teacher on her part was able to explain and emphasize the necessity for not growing careless. The local health officer of Quebradillas volunteered one day a week for physical examination of children, and corrective treatment was given free of charge to various children who were unable to pay.

In Ponce interest had been aroused in the need for a baby conference, and when the health teacher began to draw attention to the health needs of children the baby conference materialized. The local health officer provided medical services, the insular department of health furnished a full-time public-health nurse, the Red Cross gave her special training in the health station in San Juan, and the Junior Red Cross met the expense of equipment. The public officials, as well as many private individuals, contributed services and funds.

Under the unofficial protection of the Masonic order the society Zapato Escolar (Shoes for School Children) was organized for the purpose of providing shoes for needy children to enable them to go to school. There is no rule in the island that a child must wear shoes to school, but the attempt has been made to set that standard. A child can get along in Porto Rico without shoes, although the cold rains of winter and the hot pavements of summer make it very uncomfortable to do so. However, aside from the matter of comfort, shoes are most important as a means of preventing hookworm infection through the feet, and they have come to be a sign of progress. The first society was formed in San Juan, but a similar society was organized in Ponce by the health teacher.

The work of the Zapato Escolar has been developed in close cooperation with the teachers, who make recommendations as to needy children and investigate family conditions. An allotment is made to each school of so many pairs of shoes per week, and the teachers designate which children shall receive the shoes. The children take their tickets to the meeting held Sunday morning and are measured, and on the following Sunday return and "purchase" their shoes for 5 cents. At these meetings some public official or prominent citizen usually talks to the children on citizenship or opportunities or a

---

<sup>1</sup> Annual Report, International Health Board, 1921, p. 78.

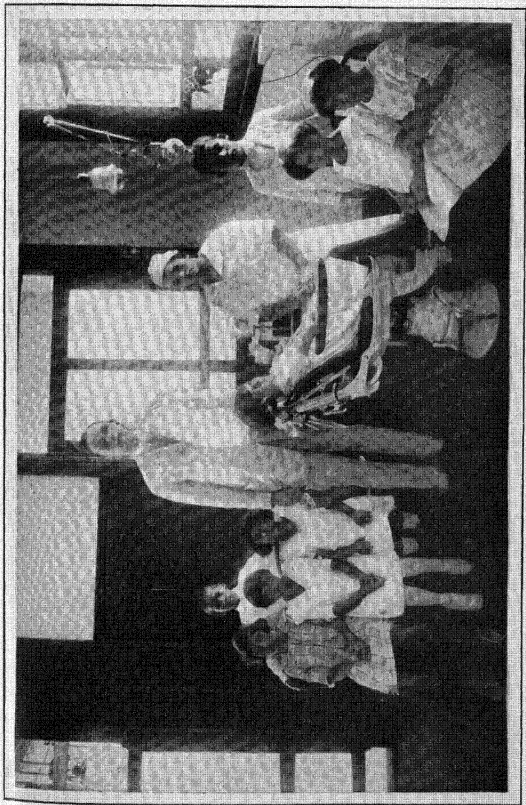
similar subject, or some one tells them stories. Holidays are especially commemorated, and in many thoughtful ways the children are made to feel themselves a vital and responsible part of the community.

In Comerio health teaching immediately uncovered a condition of conspicuously neglected teeth. The Junior Red Cross responded promptly by engaging a dentist to remove all hopelessly decayed teeth at once, and later arranged to establish a dental clinic in connection with the schools to do systematic preventive work as well as emergency work during the next school year, the municipality agreeing to continue the service after the first year.

Under the direction of the supervisor of schools the town celebrated a "children's week," in which the educational and health authorities, local and insular, assisted in drawing the community together to consider the needs of children.

Monday was the "day of little mothers." All the schoolgirls above the third grade were gathered for a talk and demonstration of the proper bathing, dressing, and care of babies, conducted by nurses from the department of health and the Red Cross. The interest was so great that the demonstration had to be repeated with a second infant. Almost all the little girls have younger children to care for, and though they are uniformly kind they have only a very limited knowledge of proper care. Raising these tasks to a dignified and professional status was a new idea, but one which was received enthusiastically. After the demonstration health stories and the film "Our Children" were given. On this day the schoolboys canvassed the town and posted a blue cross on every house containing a baby, with a gold heart if the child's birth had been registered. If the birth had not been recorded the boys explained the necessary steps, and in some instances they personally escorted the parents to the recorder's office.

Tuesday was "mother's day." Under the direction of the division of child hygiene of the Porto Rico Department of Health physical examinations were given to babies. Of the 94 babies examined all but 6 had defects. A committee of prominent citizens was formed to assist in certain of these cases. (This committee later developed into the Comerio Child Welfare League, whose efforts have been greatly strengthened by the detailing from the insular department of health of a public-health nurse for child-health conferences and home visiting.) In the evening a meeting of parents was addressed by prominent health officials on different aspects of public health, and films were shown. Hookworm is prevalent in this district, and the people were especially interested in the film showing the development of the hookworm and methods of eradication. During the



SCHOOL DENTAL CLINIC.





week this film was shown over and over again by general request, and the visualization of the hookworm problem made a profound impression.

Wednesday was "clean-up day." Under the supervision of several sanitary inspectors from the insular department of health the older schoolboys were organized into squads which cleared every alley and back yard in the community. The damage done by rats, flies, and mosquitoes was thoroughly explained and the breeding places of these pests were cleaned up.

Thursday was the "day of little children." The domestic-science classes, assisted by nurses from the department of health and the Red Cross, gave an exhibition of what constitutes desirable and undesirable clothing for children. Demonstrations were given of the preparation of artificial food for babies, the care and cleaning of bottles and other utensils, and the laundering of baby clothes. These demonstrations were for the mothers as well as for the older school-girls.

Friday, "school day," closed the celebration with a parade of school children, largely in costume, carrying banners with all manner of health mottoes. A toothbrush drill and a calisthenic drill were given in the historic plaza of the town, followed by other exercises. In the evening another meeting of parents was held for the discussion of other aspects of public health.

Throughout the week the schools were decorated with health posters. Some of these were loaned from the States, but the most interesting were the original posters which the children had made, using illustrations cut from magazines to visualize well-selected or poorly balanced diets, good and bad habits, and the general and specific needs of children. The most significant feature of the week was the complete cooperation of the health and educational authorities, the health officials utilizing the school machinery for teaching the children, and through them the parents, the fundamentals of health and sanitation.

### HEIGHTS AND WEIGHTS OF CHILDREN.

As a part of their routine work, health teachers weighed and measured all the children in the common schools of Bayamon, Catano, Comerio, Ponce, and Quebradillas, and a small number in San Juan. To these records have been added records of measurements taken by the examining physicians in San Juan schools. In all a total of 7,632 measurements have been tabulated for comparison with corresponding figures obtained in the States. The figures of average heights and weights of boys and girls from 6 to 17 years of age are given in Table I.

TABLE I.—Average heights and weights of children 6 to 17 years of age, by sex and age.

Age.	Boys.				Girls.			
	Number.	Average stature (inches).	Number.	Average weight (pounds).	Number.	Average stature (inches).	Number.	Average weight (pounds).
6 years.....	37	43.34	37	41.05	49	43.22	49	41.43
7 years.....	95	45.28	95	45.86	115	45.29	115	44.81
8 years.....	374	46.66	374	47.77	431	46.41	429	47.05
9 years.....	449	48.87	443	52.97	323	49.01	322	52.22
10 years.....	467	50.51	465	57.78	355	51.09	353	58.57
11 years.....	420	52.43	419	62.97	343	53.20	341	64.32
12 years.....	522	54.45	519	69.87	409	55.55	408	72.65
13 years.....	454	56.37	454	76.44	458	57.81	458	82.86
14 years.....	428	59.10	429	87.96	446	59.37	446	91.06
15 years.....	312	61.74	312	99.56	338	60.48	338	96.90
16 years.....	203	63.89	203	107.77	207	60.89	207	101.73
17 years.....	111	65.25	111	113.66	78	61.66	78	101.01

The four accompanying graphs give comparisons of the heights and weights of Porto Rican boys and girls with Bowditch's <sup>2</sup> figures for average heights and weights of Boston school children.

According to this comparison Porto Rican boys average about 1 inch less in height and Porto Rican girls average from  $\frac{1}{2}$  to 1 inch less in height, respectively, than boys and girls of the same ages in the States. The comparison of weights shows the Porto Rican children averaging from 5 to 8 pounds lighter than children of the same ages in the States, the girls more nearly approaching the standards of children of the States than do the boys.

A comparison of the heights and weights of the boys and girls in the different communities was made, and is shown in Table II. According to this table children of Bayamon, Catano, and Quebradillas average less in height and weight than the whole group. The children of Ponce and Comerio were both taller and heavier than the average—which was to be expected, as these communities have a generally higher standard of living conditions. The San Juan boys' average weights exceeded the general Porto Rican for their ages, but their heights were under the average, as were both the heights and weights of the girls of San Juan. The figures for San Juan were taken in schools in the poorer districts attended by children from homes below the general standard of the city. Complete figures for San Juan would undoubtedly show higher averages.

It is interesting to note in connection with the averages for the children of Quebradillas that this is the district where the International Health Board has been conducting its campaign against hookworm. More than 86 per cent of all the people of that community were found to have the disease, and this may be a cause contributing to the lower average in heights and weights.

<sup>2</sup> Bowditch's figures include weights of clothing without shoes, as do the Porto Rico figures.

CHART III.—Average weights of Porto Rican boys 6 to 16 years of age, as compared with Bowditch's figures.  
Pounds.

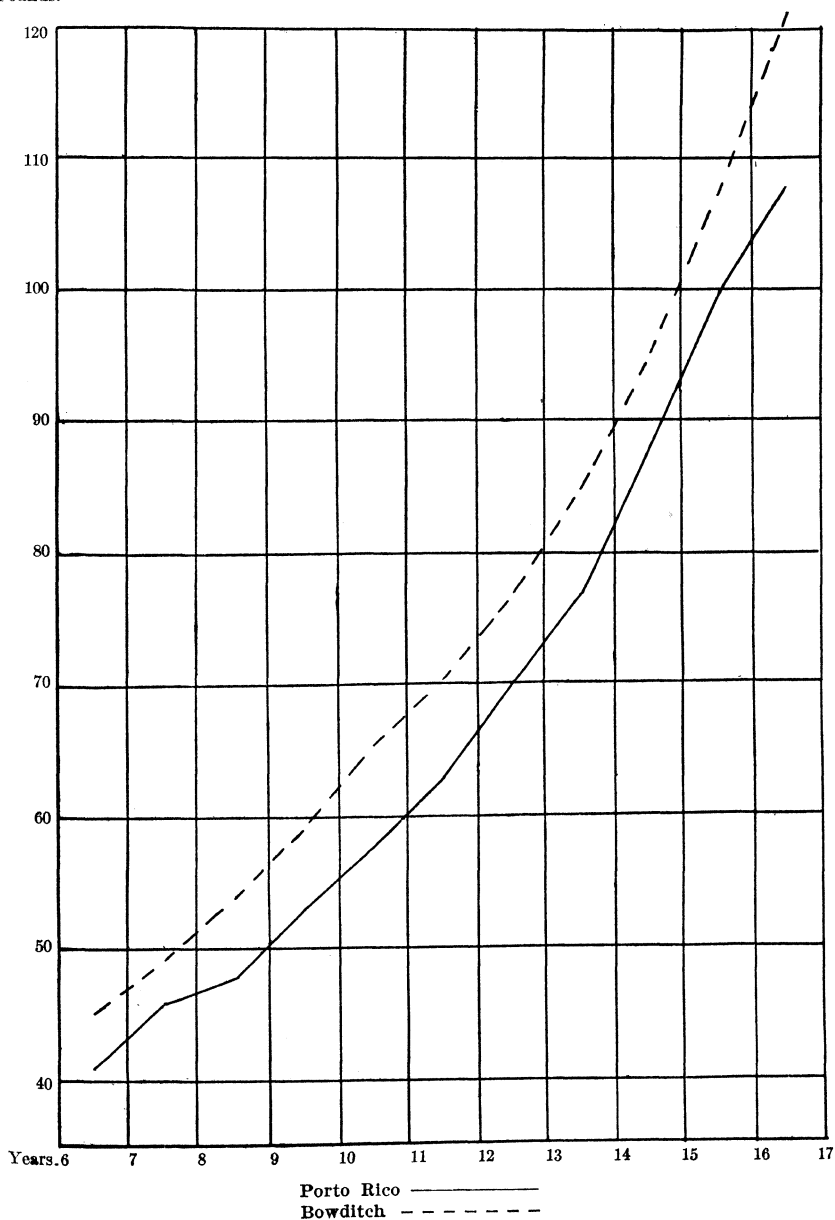


CHART IV.—Average weights of Porto Rican girls 6 to 16 years of age, as compared with Bowditch's figures.

Pounds.

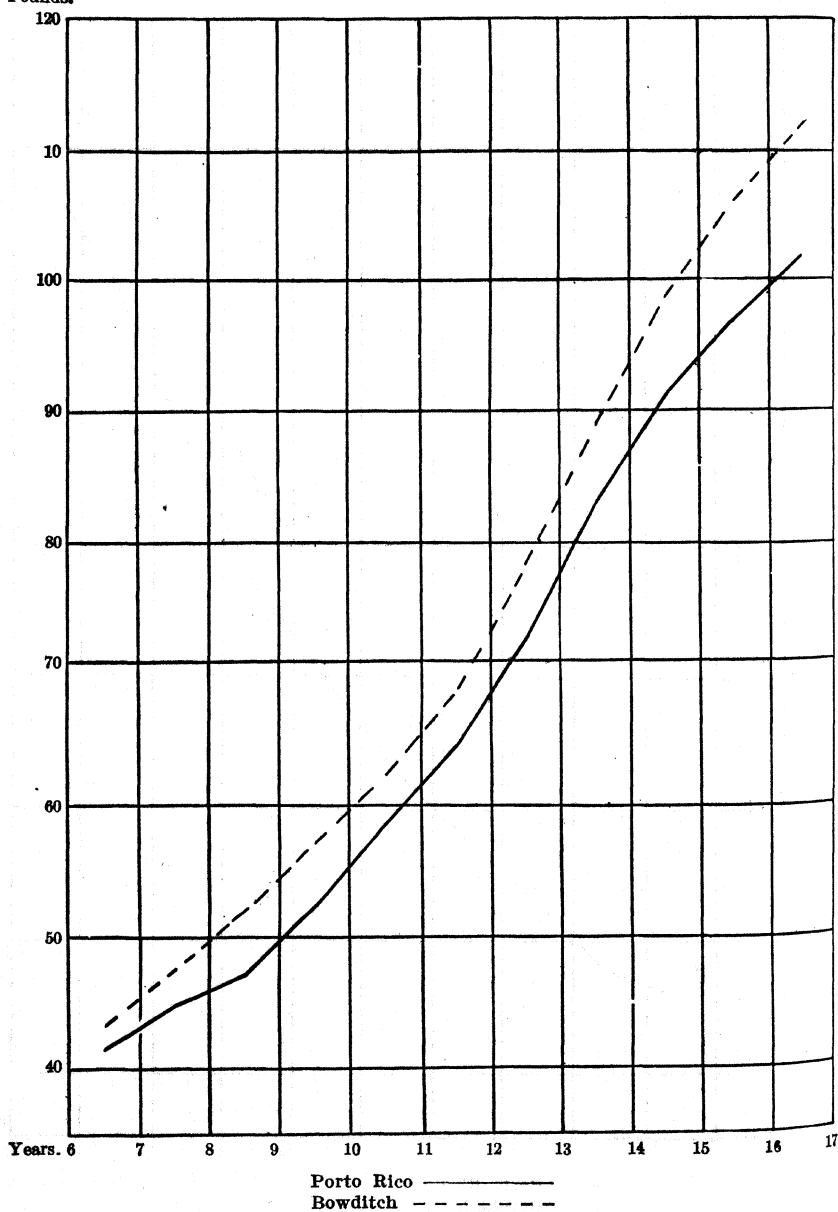


CHART V.—Average heights of Porto Rican boys 6 to 16 years of age, as compared with Bowditch's figures.

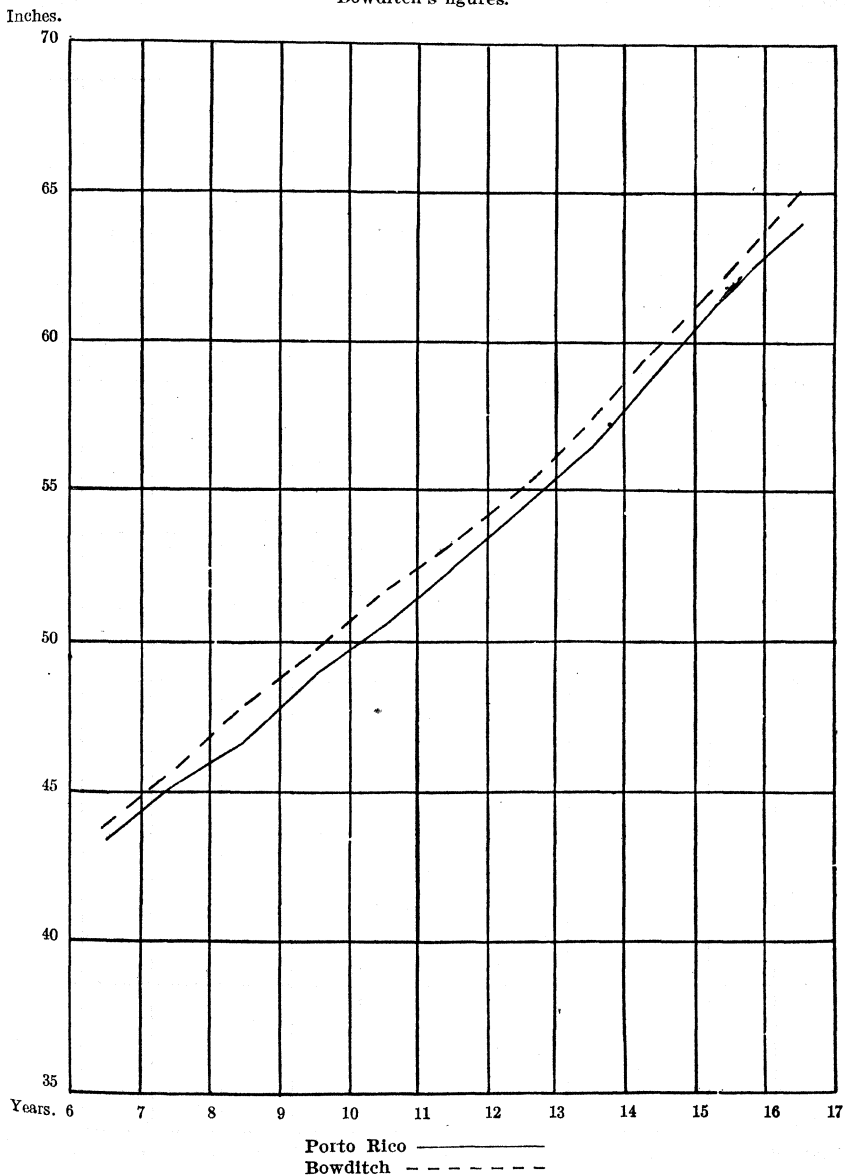


CHART VI.—Average heights of Porto Rican girls 6 to 16 years of age, as compared with Bowditch's figures.

Inches.

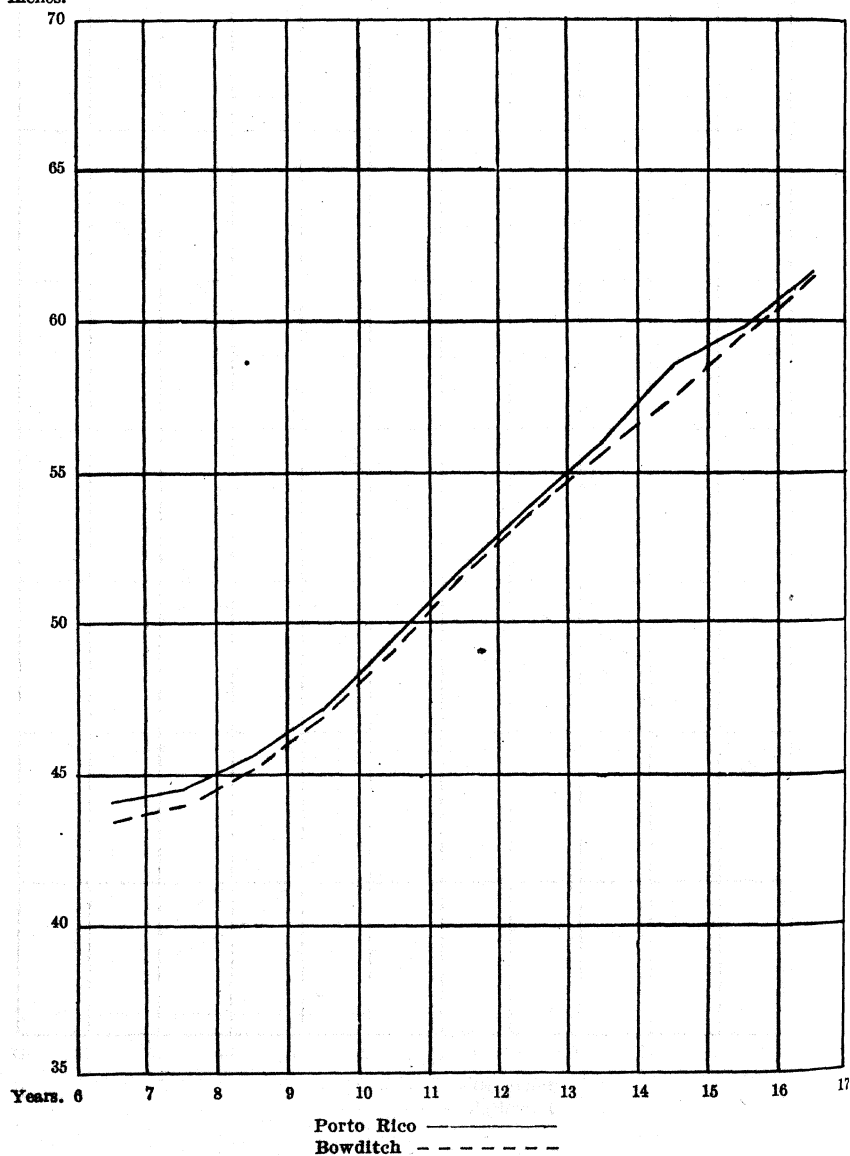


TABLE II.—Average differences between heights and weights of boys and girls in different communities and the average heights and weights of all boys and girls of the same ages who were weighed and measured.

District.	Boys.				Girls.			
	Excess or deficiency in average.				Excess or deficiency in average.			
	Height for age.		Weight for age.		Height for age.		Weight for age.	
	Number of cases.	Average excess or deficiency (inches).	Number of cases.	Average excess or deficiency (pounds).	Number of cases.	Average excess or deficiency (inches).	Number of cases.	Average excess or deficiency (pounds).
Bayamon and Catano	1,169	— .43	1,169	—1.11	1,143	— .43	1,141	— .49
Comerio	266	+ .55	266	+ .98	271	+ .64	271	+2.09
Quebradillas	309	— .39	309	— .70	229	— .76	229	—1.43
San Juan	841	— .62	829	+ .62	596	— .81	591	— .34
Ponce	1,287	+ .78	1,288	+ .57	1,313	+ .73	1,313	+ .40

Table III gives the average weight for height of the total group examined:

TABLE III.—Average weight for height of all boys and girls 6 to 17 years of age who were weighed and measured.

Height (inches).	Boys.		Girls.		Height (inches).	Boys.		Girls.	
	Number.	Average weight (pounds).	Number.	Average weight (pounds).		Number.	Average weight (pounds).	Number.	Average weight (pounds).
35	1	41.0			55	203	70.8	157	72.4
36	3	40.0			56	214	74.9	204	78.5
38	1	45.0			57	165	78.2	237	82.2
39	2	40.0			58	162	84.5	224	86.3
40	6	42.5	4	42.3	59	139	86.2	224	89.1
41	8	43.3	14	42.8	60	133	90.2	228	93.2
42	30	42.0	18	39.2	61	114	95.9	187	98.4
43	41	42.0	47	40.4	62	100	101.6	127	99.9
44	73	43.4	81	42.8	63	131	105.2	107	105.8
45	89	45.1	108	44.3	64	90	107.0	51	108.6
46	113	46.9	140	46.1	65	90	112.8	22	106.5
47	157	49.4	143	48.2	66	64	115.8	15	105.5
48	206	51.5	158	50.2	67	28	116.4	10	110.5
49	261	54.2	151	53.1	68	23	121.3	1	85.0
50	219	56.3	150	55.8	69	8	130.1	3	103.3
51	250	59.6	176	58.7	71	3	120.3	1	98.0
52	248	62.3	169	62.3	72	2	142.5		
53	232	64.9	174	64.3	74			1	99.0
54	213	68.4	164	69.3	76	1	125.0		

### PHYSICAL EXAMINATION IN THE SCHOOLS.

Physical examination of school children was started in the city of San Juan by the municipal commissioner of education, who realized the serious handicap of poor physical condition in preparing the children for life. Three physicians were employed to make these examinations, and school nurses were appointed to assist and to follow up the children who needed attention. No attempt was made

to administer treatment. The parents were notified of the report of the physician and their attention was called to defects which could be remedied. In many cases in which the parents could not afford to pay for treatment services were given gratis by the physicians of the city.

The primary object of these examinations was to discover existing conditions so that, upon this basis of knowledge, an adequate policy might be formulated. The need for dental attention was immediately shown, and three dental clinics were established with the assistance of the Junior Red Cross. The general condition of the school children is indicated by the following figures for the 7,681 children examined in 1921-22:

	Number of children.
Treatment needed.....	6, 599
Defects of respiratory system.....	5, 394
Defects of teeth.....	4, 770
Defects of skin and scalp.....	2, 695
Defects of vision.....	1, 214
Defects of digestive system.....	165
Defects of heart.....	61
Defects of hearing.....	60
No defects.....	1, 082

The findings of these examinations have resulted in a greatly enlarged program of school medical and dental service. An eye, ear, nose, and throat specialist has been added to the staff, the dental clinics have been increased, and the volunteer treatment of poor children has been systematized and extended.

Similar physical examination of school children was extended during Children's Year to Bayamon, Quebradillas, Ponce, Utuado, Aguadilla, and Comerio, but the findings have not yet been tabulated.

#### TRAVELING SCHOOL PHYSICIANS.

During Children's Year the Junior Red Cross made the experiment of sending two traveling physicians, each with an assistant, through rural districts to make physical examination of the school children and to prescribe treatment in isolated sections which had no physicians.

The experiment was continued through the school year. At the end of that time the plan was changed, and one physician continued on a more detailed program. The chief difficulty lay in the extent and seriousness of these problems. It was hoped that the physicians could give the teachers instruction covering the basic points of practical hygiene, which the teachers in turn could pass along to the children; that they could prescribe for children needing medical assistance; and that they could complete their task by a return visit. The



experience of the physicians showed great prevalence of such diseases as hookworm and malnutrition, which require far-reaching education of the parents as well as of the teachers and children in sanitation and hygiene. The physicians could prescribe for minor ailments, but to touch basic conditions was impossible under the plan of work adopted. To give instructions in practical hygiene which the teachers could transmit effectively to their pupils involved more time than had been expected. To prescribe for children without knowing their home conditions and without follow-up work was found to be of little avail. To remain in a community long enough to make a satisfactory demonstration called for different equipment and plan from those adopted.

Much valuable information was secured by this experiment. Its chief value, however, lay in showing the educational authorities the handicapped physical condition of a large proportion of the children living in isolated districts and the need of formulating some plan for raising the general standard of health. The percentage of retardation and failure to be promoted<sup>3</sup> in the schools is high, and this is undoubtedly due in large measure to the poor health of the children. Whether, with the same appropriations, the educational authorities could not actually achieve greater results in academic work by spending a portion of their revenues on direct health work is a question to be considered seriously. The present waste of having one-third of the pupils repeating their work is too great to be overlooked, and the general community benefits of a stronger race of children are incalculable.

#### INFANTS' AND MOTHERS' CLINICS.

When the Children's Year activities were being planned the American Red Cross agreed to send to Porto Rico a supervising nurse, who would develop mothers' and children's conferences, visiting nursing, and public-health work. The first baby clinic was opened in May, 1921, in Puerta de Tierra, the poorest section of San Juan. The work was developed in close cooperation with the municipal authorities. The clinics were opened in the building of the municipal pharmacy, but later larger quarters were needed and secured. At first the municipal physicians made the examinations both of mothers (prenatal) and of infants. Subsequently a woman physician made the examinations in the mothers' clinics, as this was found to be more in accordance with the Porto Rican point of view.

In the general survey of conditions are discussed the high rate of infant mortality and the limitations in the facilities for the training of

<sup>3</sup> In 1920, 33 per cent of the pupils in rural schools were not promoted. Report of the Governor, 1920, p. 441.

nurses. With the obstacle of language, it is necessary in Porto Rico to employ Spanish-speaking nurses wherever nurses must deal directly with the poorer people. The first task of the supervising nurse was to train assistants in the essentials of public-health nursing, and to teach them how best to meet the general handicap of dire poverty and ignorance. For emergency illness beds could usually be obtained at some hospital, but for the general situation of poverty, unemployment, and bad housing no organized relief was available. The Red Cross gave aid as far as possible, but its resources were totally inadequate to meet the needs of the situation.

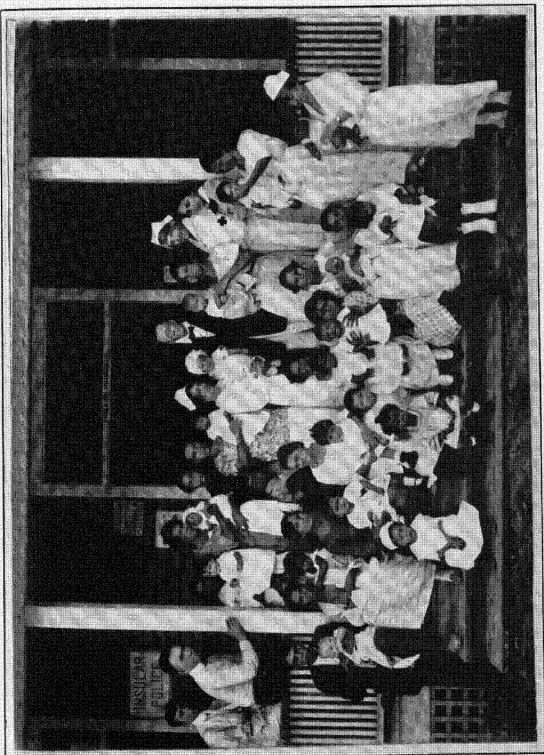
From the day the conferences were opened the mothers came and brought their babies. The Porto Ricans are most appreciative of anything done for their children, and no grants of milk or other inducements were needed to secure regular attendance at these conferences.

The nurses made regular follow-up visits and taught the mothers how to prepare food for their babies, and other elements of child care. The difficulties of the situation are hard to visualize. Many of the families have only one room, not over 10 feet square, in which the family of at least six persons dwells, often with one or more lodgers. The mother cooks on a charcoal fire on the ground. She owns, perhaps, one iron pot, and uses tin cans to help out. The baby, frequently, has not more than one dress and has no diapers. Their cleanliness under the circumstances is little short of marvelous.

The Porto Rican mothers frequently find breast feeding impossible. Pure milk is expensive and difficult to obtain and pasteurization is little understood. The poorer families commonly feed babies on family food at an early age. This is so generally true that in cases of infants only a few months old brought for treatment the best hospitals have found it advisable to accustom the babies to family diet before returning them to their homes. The prenatal clinic laid special emphasis on building up the mother's strength so that she could nurse her baby adequately, and the results obtained were most encouraging.

The Children's Bureau translated into Spanish its dodgers on the care of the mother and baby, simplifying them and adapting them with the assistance of island physicians to the special needs of Porto Rico. These were supplied to the mothers to emphasize the oral instructions given at the conferences. In addition, a leaflet was prepared by the chief of the veterinary bureau on the care of the milk goat to encourage the poor people to increase the production of milk by proper care of goats.

The results obtained in Puerta de Tierra, in spite of all the difficulties, led to the establishment of a baby clinic in Bayamon in October. This was organized in one of the schools, and the expenses



BABY CLINIC CONDUCTED IN SCHOOLHOUSE.



were paid largely by the Junior Red Cross. A nurse for follow-up work was trained in the Puerta de Tierra clinic, and the Red Cross supervising nurse continued to assist and guide. Several physicians volunteered their services in the clinic and much assistance was given by the women of the community.

In December a baby clinic was opened by the Red Cross in Barranquitas as an experiment in trying to educate mothers in an isolated district. This district was found to present peculiar difficulties—the people were extremely poor, many of the roads in the mountains were impassable during rains (and rains were unusually heavy at that period), and virtually no medical assistance could be obtained to supplement the nurse's efforts. With no means of relieving the general need of food and in view of all the difficulties it was considered advisable to discontinue this rural visiting nursing. The experiment indicated, however, that in such districts a better approach to public-health work could undoubtedly be made by beginning with conferences and classes for the better-educated mothers and extending the service as rapidly as it created its place in the community.

In December, also, a babies' conference was opened at Ponce, toward which the insular department of health and the municipality assisted the Red Cross by providing a nurse and medical assistance. The conference in Ponce was established in a better section of the city than was the one in San Juan, and received the understanding and hearty support of the community from the start.

In February a babies' conference was opened at the plant of the Central Aguirre, the second largest sugar refinery on the island, where the International Health Board is making its tests in malaria control. The company provided amply for the needs of the clinic, which was the best equipped on the island. The physician in charge had worked with the employees for years, and being thoroughly conversant with their needs was able to make more rapid progress than was made in the other clinics. The "central" had imported a large herd of thoroughbred Guernsey cows and was selling milk to the employees at a very low price, a factor of great assistance to the work of the clinic. It also raised a large variety of vegetables, primarily for the Americans in its employ but also influencing the diet habits of the Porto Ricans.

In April two additional baby conferences were opened in San Juan, in the Barrio Obrero, the workmen's suburb, and La Perla, a poor section outside the city walls.

Conferences were later established in Mayaguez and Comerio. The expenses for all of these clinics have so far been met by cooperative arrangements between the American Red Cross, the Junior Red

Cross, the Porto Rico Department of Health, and the local authorities. All the conferences remain under the direction of the supervising Red Cross nurse.

Standard records have been kept in all the clinics, but no tabulations have as yet been made of the data.

#### DIVISION OF CHILD HYGIENE.

In February, 1922, the Porto Rico Department of Health created a division of child hygiene and began a special study of the condition of children in the poorer sections of San Juan. The investigation was based upon a realization of the underlying social and economic conditions affecting the child. A census was made of all the dwellings in the district. A family folder was filled out containing detailed information as to each house and its inhabitants, the material of the structure, condition, painting, cleanliness, water supply, garbage disposal, proximity of domestic animals, stagnant water, and sanitary facilities. Within this folder were placed individual cards showing the findings of careful physical examinations of all children under 5 years of age and all pregnant women. To the findings of the physical examinations were added information as to the economic status of the family, the employment of the mother, and the marital status of the parents. In the case of infants artificially fed information was recorded as to the methods of the preparation of food, the utensils used, and the care and cleanliness of bottles and nipples.

The census and housing inspection were made by a sanitary inspector. The mothers and children were directed to the doctor's temporary headquarters in the district for physical examination, and follow-up visits to the homes were subsequently made by a nurse to insure compliance with suggested changes. In this respect the investigation was broadened to partake more of the nature of regular child health center work. The insular department of health had at the time of the study detailed eight nurses to stations established under the supervision of the Red Cross, in various sections of the island. It was not possible for the department to concentrate its nurses in San Juan to provide continuing service centers for all children and mothers covered in the investigation, but it endeavored to render enough service in the course of its investigation to demonstrate to the local authorities and citizens the advantages of maintaining the work.

The findings of this investigation when completed will provide unique and invaluable data on the conditions affecting child welfare in a tropical city. Among the conditions shown by the findings of one section were incomplete birth registration and a widespread

neglect of vaccination. Before the American occupation smallpox was a periodical scourge. The results obtained by the complete vaccination of the population have been so successful that vaccination has recently been neglected. A large number of the children had glandular affections possibly indicating pretuberculosis, and many were receiving nourishment inadequate to their needs, either in quantity or in quality. The need of dental attention was general.

The investigation produced immediate improvement in sanitary conditions. Garbage was disposed of more promptly, standing water—breeding spots for mosquitoes—was drained, and the people were given many object lessons in more hygienic living.

#### PREVENTION OF BLINDNESS CAMPAIGN.

It is estimated that there are in Porto Rico about 2,000 blind persons—proportionately twice as many as among the population of the United States.<sup>4</sup> Blindness resulting from smallpox, a disease common prior to the American occupation, was stopped with the virtual eradication of smallpox, but the other causes of blindness have been given little attention.

The discovery of cases of trachoma among children in various places in Porto Rico resulted in 1914 in an examination of over 4,000 school children under the direction of Dr. W. W. King, surgeon of the United States Public Health Service and member of the Institute of Tropical Medicine and Hygiene of Porto Rico. These examinations were made in 13 different localities, presumably offering a typical picture of conditions on the island. The proportion of cases varied widely in the different schools, but no locality was found to be free from the disease. Of all the children examined 9.5 per cent were reported as having positive cases. The disease was not confined to the poor nor to any special ages. Negroes, apparently enjoyed a partial racial immunity, which, however, was lost by mixture with other blood. The origin of trachoma in the island is not clear; it was evidently introduced during the Spanish régime—probably by immigration from Spain and Syria, in both of which countries it is prevalent. The report of this survey called for a constructive program of cure and prevention to be continued over a period of years, but no special funds were made available for this work and the matter was dropped.

To reduce ophthalmia neonatorum the commissioner of health secured in 1921 a small appropriation for packages of prophylactics to be used on the babies' eyes at birth. However, the department was

<sup>4</sup> In taking the 1920 census enumeration of the blind was not made in Porto Rico. In the census of 1910 it was estimated that the ratio of the blind to the total population was 62.3 per 100,000 in the States and 143.4 per 100,000 in Porto Rico. The Blind in the United States, p. 20. U. S. Bureau of the Census, 1917.

given no funds for the necessary education of midwives and the general public. Besides these two attempts to reach the problem little had been done to educate the public to the possibility of preventing blindness.

At Ponce the Porto Rico Department of Health maintains the Asilo de Ciegos (asylum for the blind), an institution for the care of the indigent blind, to whose functions has been added the treatment of eye cases referred by public authorities. The asylum has a capacity of about 100. For the blind children in the asylum the department of education in 1919 established a small school, under the direction of a well-trained teacher of the blind. The attendance at the school has averaged between 20 and 30, a number limited by the capacity of the school and of the children's living quarters in the asylum. The school is meagerly equipped and badly overcrowded, but its work has been important as a demonstration of the possibility of educating the blind, a subject which has received little attention in Latin America. Its work has been given publicity and assistance by the Porto Rico Association for the Blind, an organization with a small but strong membership among health and education officials and individuals interested in the problem.

In 1921 the legislature appropriated \$60,000 for a school for blind children, but complications have prevented the immediate erection of this much-needed school. The Junior Red Cross donated \$15,000 for a cottage to be erected as soon as the matter of a site was settled.

As a part of the Children's Year program, the Children's Bureau made it possible for the National Committee for the Prevention of Blindness to assist in an intensive campaign of education, which was made in close cooperation with the Porto Rico Association for the Blind and the insular departments of health and education. The committee's posters on babies' sore eyes were issued in Spanish, and selections from the committee's publications were translated and adapted to the special needs of Porto Rico. Stories to interest children in the care of the eyes were translated and published in the Porto Rico School Review, which goes to all teachers on the island, and republished in the newspapers. All this material was placed in the hands of every physician, health officer, pharmacist, and school supervisor in Porto Rico, and the posters were sent to every school.

To assist in the campaign the national committee sent its secretary and managing director and the New York State Commission for the Blind sent a special eye nurse. Meetings were held in Aguadilla, Arecibo, Bayamon, Caguas, Catano, Cayey, Gurabo, Humacao, Juncos, Lares, Manati, Mayaguez, Ponce, Rio Piedras, San Juan, Santurce, and Yauco. At these meetings motion-picture films on the care of the eyes, the prevention of blindness, and the education of the blind were shown, and short talks were given. In every town the



local officials and the local committees of the Porto Rico Association for the Blind participated. In Arecibo one session of the annual convention of teachers was given over to the subject of the prevention of blindness. In Rio Piedras a meeting was held especially for the normal-school students, emphasizing the work which they could organize in the rural districts. In San Juan a special meeting was held for girls in the upper grades.

In the larger cities conferences were held with the local health officials and physicians. Group conferences were held with nurses of the various baby clinics, and home visits with these nurses were made by the eye nurse to instruct them in the care of the eyes of the newborn. A conference on eye conditions was held with the hospital nurses in San Juan, and the school nurses were assisted in classroom inspection and home visiting.

At the conclusion of the campaign the National Committee for the Prevention of Blindness reported to the Porto Rico Department of Health the results of its observations and offered suggestions for a program of work. From its observations and conferences with health officers and private physicians the committee concluded that a large proportion of the blindness on the island resulted from remediable causes. The shortage of physicians, the fact that very few physicians on the island have specialized in eye conditions, the very limited facilities for skilled refraction, and the general employment of ignorant midwives at childbirth are handicaps which must be overcome if blindness is to be prevented.

The committee urged the importance of a detailed investigation of the blind and the causes of blindness. As a remedial measure, and one which also would yield valuable data, the committee recommended a traveling eye clinic, with a staff of one oculist and two nurses, to visit all parts of the island. Follow-up work and return visits would be necessary, and to reach all sections of the island plans should be made to carry on the work for at least three years.

In reference to the education of the blind the committee advised the economy of establishing a single school for the entire island, for which purpose sufficient land should be set aside in the beginning to permit natural expansion, and the buildings should be planned with a view to later additions.

#### BABY WEEK.

The first "Baby Week" in Porto Rico was celebrated in San Juan January 1-7, 1922, under the general direction of the Woman's Civic Club, aided by the mayor and other municipal and insular officials, the United States Army post, and many other organizations.

Early in the week the Boy Scouts canvassed the city house by house to check up on birth registration. The general impression

had prevailed that birth registration in San Juan was virtually complete. The canvass, however, showed that about 10 per cent of the births were not registered.

The program for the week's celebration included "baby Sunday," "demonstration day," "fathers' day," "little mothers' day," "school day," "three kings' day," and "mothers' day."

In the Sunday services the churches gave appropriate messages. In the afternoon three special band concerts were held for children, the United States Army band, the municipal band, and the Boys' Charity School band playing music particularly interesting to children.

On demonstration day the municipal theater was decorated with posters concerning all phases of child welfare. This exhibit was open all day and during the following days. In the afternoon was given a program of motion pictures and talks.

On fathers' day eight school auditoriums were used as forums for discussion of the duties and responsibilities of fathers for the care and education of their children. Thirty-four speakers made addresses and 14 poets read original poems on this theme, which were later published in the newspapers.

On the morning of little mothers' day the high-school girls were given a lecture—illustrated with motion pictures—on the care of children, with particular emphasis on the care of the eyes of the newborn and the prevention of blindness. In the afternoon demonstrations were given in the three high schools, by a physician and a nurse, of the proper manner of bathing and dressing a baby. Talks were given by the physician and the supervising Red Cross nurse on the essentials of child care.

School day was celebrated by a parade of 4,000 school children, in which the United States Army band and other bands assisted, and which was reviewed by the governor and other officials. The schools competed for prizes offered by the Junior Red Cross for the best exhibit. The children were dressed in great variety of effective costumes and carried banners with appropriate mottoes. After the parade addresses were given in the municipal theater.

Friday (January 6) was three kings' day, the Porto Rican Christmas. A committee of prominent women headed by the wife of the mayor took charge of this day. Regular Christmas celebrations were held in three districts, and candy and gifts were distributed to 3,500 children selected with the assistance of the teachers.

The final day of Baby Week was celebrated as mothers' day. Nine clinics for examining children were kept open that day to call the attention of the parents and the community to the state of health of the rising generation. For these temporary stations the United States Army post loaned tents.



CHILDREN'S PARADE, BABY WEEK, SAN JUAN. SCHOOL LUNCHES.  
OPER-AIR TOOTHBRUSH DRILL.



Thirty-four physicians volunteered their services for these stations, the Red Cross and hospitals sent nurses to assist, and many women of the community helped with weighing and measuring the babies and filling out the records. It had been planned to compile and analyze all the records taken in the various stations. However, many of the physicians found it imperative to explain to the mothers in careful detail the needs of the children, and this required so much time that the records were not filled out as completely as necessary for careful analysis.

The following figures analyzed by the physician in charge deal with the facts as they were shown in the clinic at La Perla, a district of San Juan situated just outside the ancient city walls. This district has narrow streets and poor housing, but its health conditions are greatly improved by the strong sea breeze which blows continually. At this clinic 77 children were examined, of whom 33 were less than 1 year of age, 14 from 1 to 2 years, 25 from 2 to 5 years, and 5 over 5 years of age. Of the children less than 1 year of age 15 were classed as well and 18 as not well; 28 were of normal weight and 5 were under weight. Of the 18 who were classed as not well the following conditions were indicated:

Gastrointestinal disorders.....	5
Skin diseases.....	4
Glandular affections.....	3
Malnutrition.....	2
Nasal catarrh.....	2
Enlarged tonsils.....	1
Otorrhea.....	1
Pulmonary catarrh.....	1
Pulmonary tuberculosis.....	1
Whooping cough.....	1
Inflamed navel.....	1
Deformity of the chest.....	1

Of the second group, between 1 and 2 years of age, 13 were classed as not well and only 1 as well. Eight were of normal weight and 6 under weight. As will be noted, the number of those suffering from malnutrition was greater than in the first age group—the result of inadequate and improper feeding.

Among the 13 children classed as not well the following defects were found:

Skin diseases.....	6
Glandular affections.....	5
Gastrointestinal disorders.....	4
Defective tonsils.....	2
Nasal catarrh.....	2
Rickets.....	1

In the third group, between 2 and 5 years of age, 3 children were classed as well and 22 as not well. Twelve were of normal weight and 13 below weight. It will be noted that the percentage of those under weight increased as the age increased. The following defects were found:

Defective tonsils.....	8
Defective teeth.....	8
Gastrointestinal disorders.....	4
Defective eyes.....	4
Nasal catarrh.....	4
Granular affections.....	3
Lung affections.....	3
Ear defects.....	3
Acute malnutrition.....	2
Adenoids.....	2
Skin diseases.....	2
Tuberculosis.....	1
Heart affections.....	1
Hernia.....	1

In the fourth group, between 5 and 7 years of age, 1 was well and 4 were not well. One was of normal weight and 4 were under weight. Among the 4 the following defects were found:

Defective teeth.....	1
Defective ears.....	1
Defective lungs.....	1
Hernia.....	1

Acute gastrointestinal affections were found more often among the younger children; what is an acute condition among the youngest children develops into a chronic and less noticeable condition as the child grows older.

At the time these examinations were made there was no epidemic and no special diseases were prevalent which might account for the generally poor condition of the children.

Later, after a regular health conference had been established in La Perla, the nurses who had worked in other sections of San Juan reported that that district had better health conditions than were found elsewhere.

### HOMELESS CHILDREN.

Some time ago the chief of police of Porto Rico, on the basis of more than 10 years' observation, estimated that there were in the island at least 10,000 homeless children. No enumeration has been made of such children in Porto Rico, but after checking up on the numbers in selected districts the chief of police stated that the total number on the island was probably at least double his original estimate.

The great mass of homeless children work as servants in private families. Such servants are found in almost every household, and it is only by such work that many of these children escape starvation. The typical Porto Rican lady does not go marketing nor run her own errands. Whether a regular servant is hired or not there is always sure to be some child about to run errands. Largely because of the difficulty of keeping food in a warm climate the householder buys only enough food for the day or for one meal at a time, which necessitates a constant running of errands. The child servant also entertains and looks after the children of the family. Very seldom are these child servants given any education. When they grow up they are paid wages, or leave either to establish homes of their own or to obtain paid positions as servants.

This system is partly an outgrowth of the transition from slavery, which was abolished in Porto Rico by decree in 1873. This abolition of slavery was brought about at the request of Porto Ricans and was accomplished without the bitterness of any struggle. In a large number of cases the former slaves continued to live as previously and their children grew up loosely attached to the family of the former owner.

In Porto Rico there is a small class of highly educated persons of means, but the great majority of the population is very poor and uneducated.

Formerly marriage fees were very high and for the mass of the poor people legal marriage was impossible. In many cases these people established their little homes in exactly the same way as though legally married, but in other cases the lack of legal bonds has resulted in more indefinite and impermanent relationships. Fathers have not considered themselves responsible for the support of their children. As a rule the mothers make every effort to keep their children together, but frequently poverty makes this impossible. Family life has been vague and in many cases the children have been given away to anyone who could provide food and shelter. In other cases the children have wandered away of their own volition.

#### HOMELESS BOYS.

A study was undertaken of homeless boys encountered on the streets of the three largest cities of the island—San Juan, Ponce, and Mayaguez. A large number of these boys were interviewed and investigated. Most of them were found to have come to the city from the country districts. The majority had some form of home tie, but the records taken in the study include 161 boys who were without any protection from their families, although in only 51 cases were both of the parents known to be dead. Of these boys 87 were white and 74 were colored. Many of the boys were not certain

as to their exact age, but their ages computed as definitely as possible were as follows:

Total	161
17 years	26
16 years	30
15 years	21
14 years	20
13 years	15
12 years	31
11 years	3
10 years	9
9 years	1
8 years	5

Thirty of these boys knew absolutely nothing about their parents. They had been given away when very young and had only vague recollections of having come to the cities from the country districts. Eighty-five of the boys believed their mothers to be dead. Of the mothers who were still living 6 were washerwomen, 2 were seamstresses, and 2 were cooks. In various instances the mother was living with a man not the boy's father and the boy had left home largely for this reason.

The great majority of poor families in Porto Rico live in houses consisting of one or two small rooms, and in these crowded conditions a boy often prefers to leave his mother rather than live with an uncongenial stepfather. As a rule the man does not assume any responsibility for the children of previous relationships and the boy has to provide for himself. In many instances he also has to provide for younger brothers and sisters.

Of their fathers 30 of the boys had no knowledge, and 76 understood that their fathers were dead. Among the fathers who were known to be living were 3 farm laborers, 2 longshoremen, 2 carpenters, 1 cigarmaker, and 3 peddlers.

Of the 161 boys in this study 38 were servants; 104 were engaged in street trades, of whom 24 were bootblacks, 18 newsboys, 7 street vendors, and 55 odd jobbers; 6 were farm workers; and 13 were engaged in miscellaneous work. The most lucrative trades in the streets are the selling of newspapers and bootblacking. Most of the regular bootblack salons employ only grown men. The younger boys have small portable outfits which they carry through the streets and into the office buildings, restaurants, and other places. Most of the newsboys were found in San Juan. In the other cities the newspapers were distributed chiefly to subscribers and very few were sold on the streets. In San Juan some of the newsboys were not in business for themselves but were paid a fixed amount by some news-stand proprietor. The street vendors who sell sweets, gum, and other small



articles usually are given a percentage on the sales made. In some cases they are employed directly at a fixed daily wage. The odd jobbers support themselves by running errands and carrying packages around town, the least profitable of the street trades.

Just how much the boys earn is difficult to state accurately, but according to computations the boys in the street trades averaged about 35 cents a day. Out of this small amount of money 33 of the boys, according to their reports, contributed to the support of other persons. Four of them were keeping younger brothers and sisters in school, although in none of these four cases had the boy himself ever attended school. Ten of the boys were attending school and earning enough to cover their expenses. In many cases the earnings of the boys were barely enough to meet their simplest needs and provide for an occasional motion-picture show. The majority of the boys attended the rear of a motion-picture theater where for 5 cents they could see the reverse side of the screen. Since in most cases they were unable to read, the fact that the legends were reversed was not a matter of consequence.

Of the 161 boys whose cases were investigated 102 had never attended school, 7 were attending night school, 2 were in regular day school, and 57 had previously attended day school. The numbers who had attained the different grades were as follows:

Total.....	57
First grade.....	3
Second grade.....	19
Third grade.....	17
Fourth grade.....	13
Fifth grade.....	4
Seventh grade.....	1

Five years is the legal age for admission to the public schools of Porto Rico. However, the school facilities are not adequate for all the children who wish to enter and the preference is given to older children. From this condition it results that in many cases the boys become used to the freedom from restraint which the street offers before they have a chance to be admitted to school, and later on it is difficult to get them to give up that freedom. The 7 boys who were attending night school were doing so as a result of the investigation. Among the boys investigated 106 expressed a desire to attend night school, but the crowded conditions made it impossible for more than 7 to be enrolled. The night schools of Porto Rico are organized primarily for the purpose of teaching adults the principles of reading, writing, and civics. The courses are not designed for children, and they do not offer much encouragement to boys who have learned the first principles of reading and writing. The schools of the island

have shown the greatest desire to cooperate so far as their limited funds will permit in meeting any need of the people, and adequate night schools for this class of boys will be established as rapidly as possible. Most of these street boys have come to realize the great advantage of learning English, and their eagerness for education is noteworthy. Only four expressed a positive dislike for school.

The general living conditions of these boys were haphazard. Thirty-nine of them were sleeping at the houses of their employers, 59 slept at the houses of friends, 3 rented rooms, 23 slept in cheap boarding houses when they had the money to pay for such accommodations, and 37 reported that they slept "anywhere." The boys who reported sleeping with friends—who were in most cases no better off than the boys themselves—received merely the privilege of sleeping in some corner of the house, which usually consisted of only one small room. Needless to say, there was no bed for the boy, who merely curled himself up in the corner and considered himself lucky to sleep indoors. Although the climate is very mild and there is no danger from snakes or animals, the Porto Rican is very reluctant to sleep out of doors, and the gratitude of the boys for permission to sleep on a bare wooden floor was pathetic. The family which shelters a boy at night has little if any control over him. Thirty-seven boys reported sleeping "anywhere," which means that if they earned sufficient money to pay for a bed or for space on the floor at some cheap rooming house they did so, otherwise they slept at the wharves, in doorways, on park benches, or in other public places. One boy had been sleeping for months at the railroad station in an empty car, but a new superintendent had refused to permit him to continue doing so, and the boy was at his wits' end to decide what to do. Another boy slept under the house of his sister, who was a prostitute, but he seemed very grateful for this amount of protection. Still another boy was sleeping in an automobile at a garage through the kindness of the night watchman. In outlying districts it is not at all uncommon for a boy to be hired to sleep in an automobile in the open, as garage facilities are extremely limited. The police are well acquainted with most of these homeless boys and exercise great leniency and kindness toward them. Only 6 of the 161 boys had "records." Most of the boys on the streets had developed a combative spirit and were considered troublesome and mischievous, but they had not shown vicious or destructive tendencies. One had served a term in the reform school for petty thefts.

The city of San Juan has a small refuge for homeless boys, which at the present time shelters 20 boys in space originally provided for 10. In Mayaguez the poorhouse extends its hospitality to all wandering children. At the time of the investigation 60 girls and 30 boys were receiving shelter in the institution and the director had ar-

ranged a classroom where some Catholic sisters were giving these children the rudiments of reading and writing.

In their haphazard form of existence the irregularity of the boys' meals is a matter of course. There are restaurants in the cities where a boy can obtain rice and beans for 10 cents, and those who are able to pay for such a meal once a day consider themselves fortunate. At other times they have to content themselves with very scanty rations, often consisting of no more than a piece of bread. The generosity of friends can always be counted upon; those who go to friends for food will always get something, although that something is not, in many instances, what the appetite and healthy growth of a boy demand.

Outlines of some interesting cases of homeless boys follow :

*Luis.*—White. He did not know his age, but looked about 12 years old; did not know where he was born. He knew his mother was somewhere in a certain inland town, but had not seen her since he was 2 months old. She had other children. His mother had given him to his aunt and uncle when he was 2 months old, and he had lived with them until two years before the investigation, when he came to San Juan to look for work.

For awhile he had been on a coasting vessel and helped the cook around the kitchen. But when the boat was about to go to Santo Domingo he had to leave it, because he did not know how to get a passport and nobody was interested in getting him one. He was fond of sea life and would have liked to go back to it.

Luis had never gone to school. He was very dirty, and at the time when he was interviewed was in the habit of sleeping in a motion-picture house.

*Pepe.*—Colored. He did not know his age, but looked about 10 years old; had no parents. He slept and ate with friends. He made his living by selling newspapers, earning from 50 to 60 cents a day. This youngster did not keep his savings in a stocking, as is the custom among the boys, but gave his money to a policeman, who kept it for him.

Pepe had never been to school. He was very dirty and was wearing clothes that must have been made for a boy two years his senior.

*Mario.*—Colored. Age, 14. His mother was dead and his father was living in another town with another woman. After his mother's death Mario had left home, and his sister had been placed out in a free foster home. He did odd jobs for a living, earning about 40 cents a day. He slept in an automobile which he was hired to look after, and ate at a restaurant. He was dirty and in rags.

*Carmelo.*—Colored. Age, 13. Both parents were living. The mother had three other children, all by different fathers. Carmelo's father was a carpenter and earned good wages, but he lived with another woman and had other children, and did not contribute to the boy's support. Carmelo had stayed in school up to the third grade, but had been expelled. He had been arrested several times for fighting. He earned about \$7 a week and gave much of it to his mother, though he maintained a separate and independent existence.

*Ramon.*—Colored. Age, 12. Both parents were living in another town. Seven brothers and sisters were at home with the parents. Ramon had attended

school up to the third grade and then come to the city to work. He was selling papers, for which he was paid \$8 per month and given board and room. Ramon's earnings went to his family, his mother buying the necessary clothes for him.

*Angel.*—White. Age, 8. Angel had come from the country with his mother and older brother after the death of his father. The mother had found work at a hotel, but the boys were not allowed to stay with her. Angel had gone from house to house asking to be allowed to work for his board and room. He was taken in by a family to run errands and entertain the children, but was found to be too naughty and was discharged. He started the rounds a second time to find himself another home and had succeeded for the time being.

*Victorio.*—White. Age, 10. His mother had committed suicide and his father had several other children, all by different women. Victorio was found leading a blind woman beggar, who paid him \$1 a month. He was talkative and gave a very picturesque description of his life, which he seemed to enjoy. He had never been to school and did not want to go.

*Alfredo.*—White. Age, 12. Alfredo was one of a large family of children. Both parents were living, but they had hookworm and were unable to work. Following the lead of his older brother he had come to the city to work as a servant. He stayed with an uncle for a little while and then found work with a family who agreed to pay him \$1.50 a month. Some disagreement followed at the end of the month and he had to appeal to the police to get his wages. He went back to his uncle and was taken ill. When he was able to be about his uncle told him he could not stay in the household because it was already too large. When the investigator found him he was aimlessly walking around the streets, sick, hungry, dirty, and discouraged to the point of not caring what might happen to him. The idea of going back to his parents did not appeal to him.

#### HOMELESS GIRLS.

Of the large number of homeless girls in Porto Rico almost all live as servants in families. In many cases they are treated very kindly, although it is seldom that these children are given any schooling. When a baby is born it is not unusual for the family to take a child of from 7 to 12 years of age who becomes the personal servant of the infant, and poor families in the hills are only too glad to find homes for their children where they can be certain the children will receive enough to eat and a place to sleep. Girls of 6 or 7 often show a matured sense of responsibility more pitiful than other more obvious evidence of the lack of happy carelessness in childhood. This seems all the more remarkable when the child is underdeveloped physically and appears even younger than she is.

Up to the present time there has been no social conscience against this practice. In many cases the child's services are not really needed and she is taken into the house more in charity than for any selfish motive. Often she is a relative of some other servant and comes because she has no other place to go. However, where servants are cheap and plentiful duties are multiplied to fill their time, and the household feels that it must have services which people in the States,

in similar conditions, would not expect. To have three or four servants is not unusual for a family of moderate means. The servants' duties are light. They often sleep in their own homes, and any occasion of family illness or other need is sufficient excuse for their non-appearance at work.

Among the Porto Ricans social relations are strongly personal, and many things are done by custom which are governed elsewhere by legal right. Kindness and consideration, as well as all the forms of courtesy, are the rule. However, any system under which the welfare of children is dependent upon the kindness of persons not legally responsible for them is liable to abuse. The problem of these thousands of children who are kept or passed along without any guaranty of protection is one that calls for much more consideration.

The race problem inevitably has had much to do with a careless attitude toward the education of these child servants, almost all of whom are of mixed blood. While Porto Rico was fortunately spared bitterness and civil war in the freeing of its slaves, a wide gulf has existed between the highly educated Porto Ricans of Spanish blood and continental culture and the simple, illiterate colored people. Toward those of mixed blood the islanders have been far more sympathetic than the people of the States have been. They have recognized individual merit and have accorded high honors to many colored persons, but they have considered it not unsuitable that the colored people should remain servants and therefore have thought it unnecessary for them to receive education.

As education spreads responsible Porto Ricans are coming to realize and to advocate the right of all children to the fundamentals of education. Compulsory education is doubtless the broadest approach toward a solution of the many problems involved in the situation; but at present education is a privilege, and not a right, in spite of a compulsory education law enacted by the legislature. Until sufficient funds are found to provide school facilities for all children the compulsory education law can not be enforced.

The general education of public opinion in regard to the homeless children is going on. The Woman's Civic Club of San Juan, the W. C. T. U., and other organizations are giving the matter careful consideration, and the large influence of former teachers among the membership keeps education constantly in mind as the method of solving the problem.

In addition to the general problem of these children, for whom no one is considered responsible, there is an acute problem of delinquent and neglected girls for whom no institutional care is provided.<sup>5</sup>

Subsequent to the investigation of homeless boys the chief of the insular police cooperated with the Children's Bureau in gathering

---

<sup>5</sup> See p. 28.

data concerning girls in need of institutional or other care because of delinquency or neglect. Questionnaires were sent to all district chiefs of police asking them to list girls who had come under their observation as being in need of such care. Data were received concerning a very large number of girls in dire need. In most cases these girls were living with their families or relatives and their condition was one of extreme family poverty but did not otherwise call for change from existing living arrangements. The notations of the district police officials showed personal knowledge and concern and their eagerness to find some help for the children was touching. The original lists sent by the officials were turned over to the American Red Cross to see if aid might not be found in individual cases, and to be used to assist the attorney general's office in its appeal to the next legislature for funds for an institution for girls.

Of the larger number of forms filled out, 119 were taken as a basis of study, as indicating the need of removal from existing conditions. Of these girls 65 were classed as "homeless," "vagrants," or "delinquent," and 54 as "servants," but under conditions which called for immediate change. In gathering this information no attempt was made to draw any sharp lines between cases of neglect and delinquency. All the girls were under 16 years of age and all were living under conditions of extreme moral hazard. Of the servants several had notations such as "prostitutes" or "often found on the streets at very late hours." Some had appealed to the police for help because of intolerable moral conditions. One girl only 7 years old was living with three sisters, all prostitutes. One 13 years old was living in a recognized house of prostitution. One of 8 years and another of only 4 without parents or regular abode were classed by the police as "moral delinquents." Another girl of 13, who had first come to the attention of the police as a victim of rape, was now a prostitute. Various others were listed as being under observation for moral laxness. Twelve of the girls made begging a regular occupation, several of them because of the illness of a parent but under conditions which offered little hope for the future of the child.

Of the 119 children the parents of 70 were either dead or unknown. Eleven had both parents living and 38 had one parent, but many of the parents living were classed as beggars or ill, and were considered by the police a hindrance rather than a protection to the children.

Of these 119 girls 67 had never been in school, 20 had reached the first grade, 16 the second, 7 the third, 7 the fourth, and 2 the fifth. Two of the girls, 13 and 14 years old, were attending night school (first grade) at the time of the investigation. The parents of both were dead. One girl eked out a precarious existence sewing blouses and the other lived in a family as a servant. Both were trying

without help or guidance to lift themselves out of hopeless and illiterate poverty, with nearly every probability against their success. Four of the girls had police records for theft.

The ages of the girls were as follows:

Total	119
4 years	1
6 years	5
7 years	6
8 years	8
9 years	8
10 years	15
11 years	12
12 years	21
13 years	20
14 years	14
15 years	9

One of the girls was an Indian, 41 were colored, and 77 were white.

#### ABANDONED MOTHERS.

As a sidelight on the matter of homeless children, the W. C. T. U. undertook a study on a limited scale of mothers, married or unmarried, who had been abandoned by the fathers of their children.

As has been stated, among the educated classes marriage is as strictly observed in Porto Rico as in any other section of the United States, but among the poor and ignorant unlegalized relationships are common.<sup>6</sup> In many cases these relationships are of a stable character, but in many others they are of short duration.

The "family" and the "home" do not exist among the poorer classes of Porto Ricans in the sense in which these terms are used ordinarily. The degree of poverty which prevents a family from having more than one small room, and that virtually without furniture—with perhaps a hammock or a poor bed for the man, no chairs and no other conveniences—makes of the "home" only a room where the family sleeps in a mass on the floor at night. Privacy does not exist. Life is lived on the street, and only a people of unusual kindness and clean instincts could make of the situation one in which sordidness was not the rule.

The lack of a feeling of responsibility for their children on the part of the fathers is in peculiar contrast to their invariable kindness and fondness for children. This is probably rooted in the combination of geographical and social conditions—the mild climate in which shelter is not necessary to existence and, until recently, nature

<sup>6</sup> The United States census of 1920 lists 48,697 men and 52,593 women as living in consensual unions. The figures for 1910 are practically the same: Men, 50,113; women, 51,073.

supplied food without labor, circumstances relieving the parents of a responsibility taken for granted among northern races; and the former condition of slavery or dependence with its attendant irresponsibility for self-support and its tendencies towards irregular unions.

The mothers ordinarily take more than their share of the responsibility for the children, working in the tobacco factories, washing, sewing, cleaning, and doing other housework, when they can get work to do. They bear the brunt of providing for the children in the majority of cases, so that desertion by the father does not necessitate so sudden a readjustment in their lives as it would if the fathers were customarily the sole providers. When the mother is young and has some means of earning a living the shifting of relations may not cause physical hardships to the children, but it breaks up any remnant of the care and protection of children which is associated with any form of family life. If the mother is no longer young and attractive, or if her strength has failed, the situation often becomes pitiful. The kindness of neighbors is extraordinary, and they will literally share their last crust of bread, but often they have nothing to share. The children wander off or are given away without any assurance that they will have care or consideration.

Determination of the cause of desertion is often very difficult, particularly if the deserted wife is the only source of information. The prevailing opinion of the women who made this study was that the basic trouble was economic conditions—low wages, uncertainty of employment, and long periods of unavoidable idleness with its breaking up of regularity and good habits and its hardships under which many men desert their children rather than see them suffer.

Some typical cases which help to visualize the situation are here listed:

*Concha*, aged 25, married to a man 20 years older than herself, had 4 children—9½, 8, 6½, and 5 years of age. Her husband was a clerk, employed irregularly. He had deserted her a year before, after a long period of unemployment. She had no resources nor occupation; was living on the charity of neighbors, but this could not continue indefinitely.

*Carmen*, aged 22, not married, had four children—aged 6, 4, 3, and 1. Her man was a policeman, who left her to live with another woman. She worked in the tobacco factory when there was work.

*Maria*, aged 25, married 10 years before to a carpenter, had four children, of whom only one was living. Her husband had had many affairs. He had left her finally a year before the investigation. She supported herself by washing.

*Dolores*, aged 29, married to a man who worked in an office, had three children—7, 6, and 3 years of age. Her husband had deserted her two years before. She and her mother made blouses, and with difficulty supported the family. The Red Cross located the man in New York, and he sent a little help. He said he went north to get better opportunities, but had not earned enough to bring the family north.



*Juana*, aged 26, not married, had one child of 2 years, by a servant. He had left her a year before. An aunt supported her and the baby. The man was believed to have gone to New York.

*Mercedes*, aged 30, not married, had three children living—15, 12, and 9 years old—and had lost four others by death. Her man was a carpenter, who worked irregularly and gambled. At the time of the study he was living with another woman. He contributed a little money occasionally to Mercedes, and also to another woman besides the one with whom he was living. The oldest boy was in the reform school.

### GAMES AND ATHLETICS.

Games and athletics, as they are known in the States, in Porto Rico date from the American occupation. Previous to that time sports meant horse racing, cockfighting, and other activities in which the gambling feature was prominent.

Baseball came in with the troops and has been as popular as it has been wherever else it has obtained a foothold. Track and field athletics were introduced by some of the first school-teachers from the north, and interest in them has grown steadily, although many boys of better-class families at first felt that it was out of place for them to take an actual physical part in strenuous contests.

A few years ago the Y. M. C. A. introduced basket ball, and this game was played in a few of the schools. During Children's Year it was adopted by many more schools and for the first time made real progress as an activity for girls. Under the direction of the insular supervisor of home economics the home economics clubs (numbering 68) all over the island have taken up basket ball. Hereafter as part of the course of study every girl taking home economics will make for herself an athletic costume, which will naturally encourage the girls to wider participation in games. Some of the schools have tennis courts, but this game is not practical, as few can play at a time and the equipment is expensive. Volley ball is played as a playground sport only, but appreciation of this game is growing, and it will eventually take its place as a competitive sport. Soccer football has been played to some extent, but not in the schools. It is doubtful if it will ever be popular, as it is too strenuous for the Tropics.

Physical training and playground work were introduced in 1908. For a time a special supervisor was employed, but the position was eliminated in 1914. At that time there was a general impression that a playground meant an open-air gymnasium; considerable money was spent on swings, giant strides, seesaws, and other apparatus, but nothing for supervision, with the result that most of the money was wasted. In the general curtailment of appropriations in 1915 the supervision of physical education was discontinued, but it was again instituted in 1921.

Prior to 1921 the possibilities of play and games without apparatus had not been developed on the island. Although a few supervisors and teachers had made beginnings along this line, their work had not reached beyond their own districts. Partly because of the tropical climate and partly because of inheritance and traditions different from those of northern races, the children of Porto Rico have played few games. They have largely missed the play which is taken for granted in the upbringing of the American child and which develops health, teamwork, and the spirit of fair play.

The specialist in recreation sent to Porto Rico by the Children's Bureau worked with the department of education in establishing a system of organized play in the schools. Demonstrations were given at teachers' institutes held in Guayama, Cabo Rojo, and Yauco, and instructions for playground and schoolroom games, adapted to the special needs of Porto Rico, were widely distributed. For several months classes to teach games to the teachers of San Juan were held weekly in the various schools. Schoolroom as well as playground games were taught and emphasis was laid on the selection of games as exercises in developing alertness, concentration, observation, and similar faculties. There are no schools in Porto Rico for backward or subnormal children. In several schools the teachers discovered in games a means of developing backward children. The play period has replaced an unprofitable recess time in certain districts, and in San Juan, Mayaguez, and Manati regular play periods have been included in the schedule. San Juan and Mayaguez have had special women teachers to supervise the work. Classes were started for normal students at the University of Porto Rico, and this work was later extended by the department of education into an intensive summer-school course in physical training, games, and athletics for rural teachers, principals, and physical-education instructors.

The Porto Rican teachers, already carrying a very heavy burden, were at first reluctant to add another duty to the day's work, but this attitude changed after a short trial demonstrated that the playing of games taught the children to see and hear and think more quickly and that they carried back to their studies a new alertness. To the pleasure of wholesome games was added the beginning of group spirit. Discipline and attendance improved and the children approached their work with new interest.

The educational system of Porto Rico has strained to overcome the neglect of past centuries, and academic work has necessarily absorbed every effort. But wherever games have been introduced the children, and the teachers and principals as well, have entered into the spirit and have played with an eagerness surprising and touching. The function of organized play in the schools in the transition from the old tradition of Spanish aristocracy to that of American

democracy—of universal participation and responsibility in community life—was immediately recognized by leading educators of Porto Rico.

Special interest was shown in the singing games and the simpler folk dances. The Porto Ricans are a dramatic people, and the "play acting" as well as the physical movement and the music makes a strong appeal to them. Fundamentally folk-song games are founded upon the life and spirit of a people, their customs, and their national activities. For generations Porto Rico has borrowed her customs, her mode of dress, her music and dance from Spain and has ignored her natural inheritance of traditions from the Indian. Since 1898 Porto Rico has looked to the States to satisfy a longing for national customs, and has too hastily discarded much that was well worth preserving. Teaching Porto Ricans the traditions of other countries was an opportunity of awakening a pride in their own. The teachers and the children caught the spirit of the simple Old World games. Very often a teacher or pupil would say, "We have something almost like that game." Whenever a Porto Rican version was found an effort was made to encourage its appreciation.

In addition to the woman recreation director, the Children's Bureau sent a man to assist the Porto Rico Department of Education in raising the standards of school athletics, in promoting wider participation, and in making these activities assist in community progress.

The insular department of education was encouraged to replace the former complicated system of calisthenics in the schools with one much simpler and calling forth much more spontaneous activity. Calisthenic drills have proved interesting to the parents and the general public, and have stimulated the formation of athletic clubs and classes for older men quite apart from the school. At Mayaguez were held two field days, contests between different schools, in which the most keenly contested features were competitive calisthenic exhibitions participated in by all the children from each school. Similar exhibitions have been given in various towns, as, for example, at Comerio, where on "school day" of "children's week" an exhibition of the "daily dozen" to the music of the phonograph was given by 250 children in the historic plaza.

The Boy Scout movement is a possible source of great good if it can be properly launched and directed. Attempts have been made to organize scout work on the island, and at one time there existed an excellent organization centering in the Y. M. C. A. Ten or twelve troops of scouts were organized and the boys were enthusiastic. The Y. M. C. A., however, found itself unable to carry on the work in addition to its regular program, and as no other organization was found to take up the work the movement lapsed. Its influence, how-

ever, has persisted. At various times during the Children's Year activities former scouts offered their services. During Baby Week in San Juan they made a house-to-house canvass of the city and its suburbs, and collected a mass of material regarding birth registration that awakened a realization of the incompleteness of registration under the system in use. They kept order during the parade of the schools in which 4,000 children marched through the streets without a teacher in line. They acted as ushers at field meets and served as volunteer "police" on several occasions.

Practically nothing has been done to arouse interest in the Girl Scout movement, except by a small group at Mayaguez.

Baseball on the island has generally been played under adverse conditions. Before 1922 the department of education had never taken control of school games; consequently so-called school teams were made up largely of outsiders, and no one was responsible for their conduct. Town or club organizations played on a semiprofessional basis without any controlling body. This had resulted in many evils, such as stopping games in the middle to save gambling money, wholesale desertion of teams by players, throwing of games, and all sorts of trickery and unfair practice. The particularly bad feature of this had been that many of these teams were composed in part of schoolboys, who acquired an entirely wrong point of view on the whole question of athletics. A large proportion of the athletes in the schools were playing baseball for money, and too often the accepted standard of conduct was "anything to win." The department of education through the Porto Rico Interscholastic Athletic Association, which it controls, has made a stand against professionalism in track athletics, but has not accepted the playing of baseball for money as a cause for disqualification, on the ground that if this were made a reason for barring a player there would be no track athletics.

The general standard of athletic performance has been low, for the same reason that the athletic spirit has been of the wrong kind—that is, lack of competent instructors. By this is meant not only men able to teach the boys the form and technique of sports, but men who are themselves sportsmen, able and eager to instill into their pupils the amateur idea of playing a game for its own sake. The only men available have been the graduates of the system in vogue, who naturally carried it on. A few men from the States have tried to raise the standard, and their work is gradually having its effect. Better feeling is growing up, with games on a more wholesome basis and with a better class of boys taking part.

The fact that there was no background of sporting tradition, combined with the gambling atmosphere that surrounded all games, created conditions that paralleled very closely those of a few years

ago in some schools and colleges in the States, when star athletes from preparatory schools were offered substantial inducements to enter this or that college and a "crack" baseball or football player could always find a convenient "scholarship" somewhere. Although conditions in the States have improved greatly, there are still enough instances of this kind to make possible an understanding of the difficulties which the Porto Rico Department of Education has been obliged to overcome in building up the spirit which it has desired to establish on the island.

When the Children's Bureau began its campaign to increase interest in physical development through games and athletics the department of education appointed 12 special instructors, who were assigned to districts in various parts of the island. Through the intensive work of these instructors far wider participation was obtained during the year than was ever obtained before.

One of the greatest obstacles to the development of athletics in the island is the lack of grounds. Porto Rico is small, densely populated, and in some sections so hilly that it is practically impossible to obtain any level ground near schools. There is one excellent athletic field in the island, at Ponce, but that needs greatly enlarged seating capacity in order to accommodate the crowds that are anxious to attend the field days and festivals held there. San Juan has two tracts of land suitable for athletic fields, one belonging to the city and one to the schools, which will soon be made ready for use, and the San Juan budget for next year carries provisions for playgrounds in connection with six of the schools. Mayaguez, Caguas, Fajardo, Humacao, and Rio Grande have athletic fields ample for their needs, all but that of Mayaguez having been obtained during Children's Year. Yauco has obtained land, which will soon be put into condition. Plans are under way for establishing in Arecibo a field larger and better equipped than any other on the island, a gift from a prominent citizen to the children of the city. Manati has acquired a field. Isabela and Quebradillas at present have the use of vacant land, and may be able to continue on the same basis. An excellent field in Catano, between San Juan and Bayamon, used occasionally for professional sports, is to be given for the use of the schools. In addition, many smaller playgrounds have recently been acquired. The special attention which has been given by the department of education to the physical development of children has met with generous response on the part of public-spirited citizens, who have donated land or given the use of it to the schools, and have assisted in paying for necessary grading and the building of fences and grandstands. Many of the rural schools use the roads for playgrounds if there is little traffic, but the difficulty

of obtaining adequate space is very real and its solution will require much work and money and no little time.

As a means of promoting better understanding and of increasing interest local athletic associations were formed during Children's Year in 29 towns and districts. The exact form of organization varies according to local conditions, but the general rule of giving the pupils of the schools a certain amount of responsibility and initiative has been followed throughout. In some districts one association has been formed, in others a separate one in each school; in others a high-school association exists in addition to the general organization. In some towns, regular meetings of the high-school associations have been conducted in English, and the scope of activities has not been confined to athletics but has taken on a more general character, the athletic association serving as an additional opportunity of practicing English. A number of the associations have promoted entertainments to raise money for the purchase of equipment and for other needs, and have developed into more general community clubs.

During Children's Year hundreds of games of baseball and basketball were played by the school children. In the larger towns every school had its team, and in many of the schools each class, also, had its own team. This meant the participation of thousands of boys, instead of the very limited participation of previous years. Permission to play on teams was made dependent on satisfactory school work, and the teachers found this feature a decided help in the general conduct of their classes.

The annual interscholastic track and field meet for the championship of Porto Rico was held in Ponce at the end of March. Nearly 500 boys, from every district of the island, took part—an entry list double that of any previous field meet in Porto Rico. The contests consisted of the events customarily scheduled in interscholastic track meets in the States. Baseball, girls' basket-ball, and boys' basket-ball championships were played off at the same time. Considering the handicaps, the standard of performance was excellent. Porto Rico will undoubtedly make a place for itself in national competition in the very near future.

During the spring of 1922 the Y. M. C. A. conducted a series of basket-ball games to determine the championship of San Juan. The teams competing were composed largely of men from the States, Army men, and ex-college players, but the winning team, it is interesting to note, was made up entirely of Porto Ricans, and the San Juan High School team, the lightest and youngest of the teams, finished in third place. This series led to greatly increased interest in the game among the schoolboys, and it is certain that as a result there will be much more basket ball in the schools hereafter.

Some of the men on the island most interested in baseball are now trying to create a controlling body to take charge of professional baseball. This would result in keeping the schoolboys from mixing with the professionals. Also the Porto Rico Interscholastic Athletic Association under its new constitution will prohibit the boys from playing club baseball. However, unless rectified, the bad influence of the present professional system will continue. It will be hard to raise the standards of the boys' teams if they see all manner of unsportsmanlike practices followed by the outside clubs. Any responsible controlling body which will force the players to keep their engagements, and prevent throwing of games, mobbing of umpires, and disputes over gate receipts, will be a great help to the men who are trying to raise standards among the boys.

The Y. M. C. A. is planning to organize a body comparable to the Amateur Athletic Union, which will register all amateur athletes in the island and conduct track meets and other contests. In connection with this they will, if possible, organize an association of officials, to bring together all men who are capable of acting as baseball umpires, basket-ball referees, and track officials. In view of the need of good officials, this will be a great help to better sport. The plan is not only to make use of all present officials but to develop new men to take up the work.

What is needed in Porto Rico to bring games and athletics to their point of greatest service in the development of the people is more adequate control and direction by the department of education and better training of instructors. To meet both these needs the department has taken important steps.

Under the provisions of the constitution of the Porto Rico Interscholastic Athletic Association, as recently rewritten, all athletics are directly controlled by the department of education, which does away with the irregularities that have existed with respect to baseball. The rules regarding professionalism and scholarship requirements are made much more stringent and their enforcement is made easier. A new system of grouping the schools into classes will be used by which competition will be equalized and a much larger participation will be obtained.

The question of instructors is receiving serious attention. A course was given at the summer school of the University of Porto Rico for the benefit of men wishing to qualify as instructors of physical training. Not only students desirous of devoting themselves entirely to this work but all those in the summer school were admitted to this course, which thus reached a large number of the rural teachers. The rural schools have the greatest need of this work; whatever will bring physical training to rural children will reach a field hitherto untouched.

The department has funds to pay only 12 to 15 special teachers of physical education, but many municipalities are willing to pay part of a teacher's salary for this work. These special teachers have in many instances been mistakenly regarded as coaches paid to train track, baseball, or basket-ball teams, and some of them have done practically nothing else. This has been partly the fault of the instructors, who thought their work would be judged solely on the showing that the teams made in contests, and partly the fault of their supervisors, who encouraged them in this attitude. The course at the normal school was designed to make them realize that the pupils who really need their attention are not the athletes but the nonathletes, and that the main task of the instructor is to obtain universal participation in activities which will add to the health and education of all the children and promote community well-being.

The new constitution of the athletic association provides for competition among pupils in the lower grades and in the rural schools, who so far have been overlooked. During Children's Year a beginning was made toward conducting athletic games for the rural schools. In Isabela an interesting program of games was held at the time of the annual agricultural exhibit. Six rural schools sent track teams, and two others were represented by baseball teams. Another rural-school field meet was held in Ponce, in which 46 rural schools took part. Over 150 boys participated, and 15 different teams succeeded in scoring points. The interest in this track meet was remarkable; hundreds of people from the country filled the grandstand, and for the first time in their lives saw their boys running and jumping and playing games in competition. Some of these people, and some of the participants as well, had walked as far as 15 miles in order to be present, and had to walk home afterwards.

In the development of rural-school meets it will probably be best to modify the events, substituting informal and amusing "stunts" for certain contests, such as pole vaulting, which require a high degree of technical skill.

A rural baseball series was later held in the Ponce district in which 12 teams were entered, a notable showing considering the difficulties; not one of these schools had a baseball ground, and the boys practiced on the roads and in rough fields, with only the most primitive equipment.

This eager participation by the children of the rural schools in games and contests, and their willingness to make sacrifices in order to take part, refute the careless and sweeping statements sometimes made as to their indolence and lack of interest in wholesome recreation. They have been handicapped by the lack of facilities as well as by the long-time tradition against group activities, but with only slight encouragement they have made rapid strides toward overcoming these disadvantages.



## DEVELOPMENTS SINCE 1922.

In the spring of 1923 the Children's Bureau made a brief follow-up study of conditions in Porto Rico, which showed that the child-welfare activities initiated during the previous year had gone forward in a most encouraging manner. Play and athletics had been given greater importance throughout the school system, and the training of teachers in play had established those activities upon a firm foundation. Classes in organized play were again given for the teachers of San Juan and Santurce. Their work with the children had been greatly strengthened, and the benefits of organized play periods had completely overcome the first difficulties of adding to a schedule of work already crowded. A Manual of Games prepared by the bureau for use in Porto Rico was distributed through the Porto Rico Department of Education to all the grade teachers on the island, giving instructions, programs of games, and suggestions which have made the work of the teachers more definite. The general increase in play activities throughout the island is indicated by the statement of the commissioner of education in his annual report for 1922, that within that year the number of urban school playgrounds increased from 50 to 179 and that of rural school playgrounds from 16 to 261, the number of municipalities having community playgrounds from 4 to 18, and the number of recreation and athletic associations from 15 to 39.

Participation in athletics has increased very much in the last year. The number of entries for the annual field meet, which in 1922 was double that of any preceding year, again doubled in 1923, necessitating the division of the meet into three sections. Participation in baseball and basket ball was increased fully as much.

The 1923 session of the legislature created a bureau of social welfare under the Porto Rico Department of Health, with an appropriation of \$60,000, and with provision for flexibility in developing this work. This bureau will have supervision of public health, infant hygiene, and charities, the last having been delegated to the health department by the organic act. Two years ago the supervision of municipal charities was brought under the Porto Rico Department of Health, but without adequate means for carrying out the work. With the means now provided, great progress should be made in the near future. During the last year the number of child-health centers established by the insular and municipal departments of health working in cooperation with the Red Cross has been increased, their

service has been strengthened, and public interest in their work has become widespread. The program of Baby Weeks has been continued, and an institute on infant welfare and other aspects of public health has been conducted most successfully.

The 1923 legislature also appropriated \$50,000 for a training school for nurses in connection with the Municipal Hospital of San Juan, under the insular department of health, and accepted the cooperation of the Red Cross in providing the supervising staff of the school. At the present time public-health work is held back by the lack of an adequate number of trained nurses, and this provision for increasing the number of nurses and raising the general standards of nursing is of basic importance to the development of all health work on the island.

The 1923 legislature also provided \$60,000 for the establishment of an insular puericultural and maternity institute for promoting the hygiene of maternity and infancy. The institute is to have consultation centers for expectant mothers and for children. besides hospital facilities for women during confinement.

During the last year the United States Public Health Service made a survey of tuberculosis in Porto Rico, working in connection with the insular department of health so that the most practical benefits might be achieved from its study. The findings of the survey have called further attention to the need of general education toward better standards of sanitation, diet, and housing. A health crusade has been started in the schools to emphasize these aspects of health conditions.

The summer courses at the University of Porto Rico in home hygiene and the care of the sick were continued, with special emphasis on infant and child care. These courses were given to the home-economics teachers of the island, and it is planned to have a supervising nurse go over the island during the next school year to strengthen the class work on these subjects.

During the regular term of the university an experimental course in social service was offered. Lectures were given by persons representing the various social activities so far developed, and supervised field work was planned. The first half of the course was required and the second was elective, but no falling off in attendance occurred after the required period was completed.

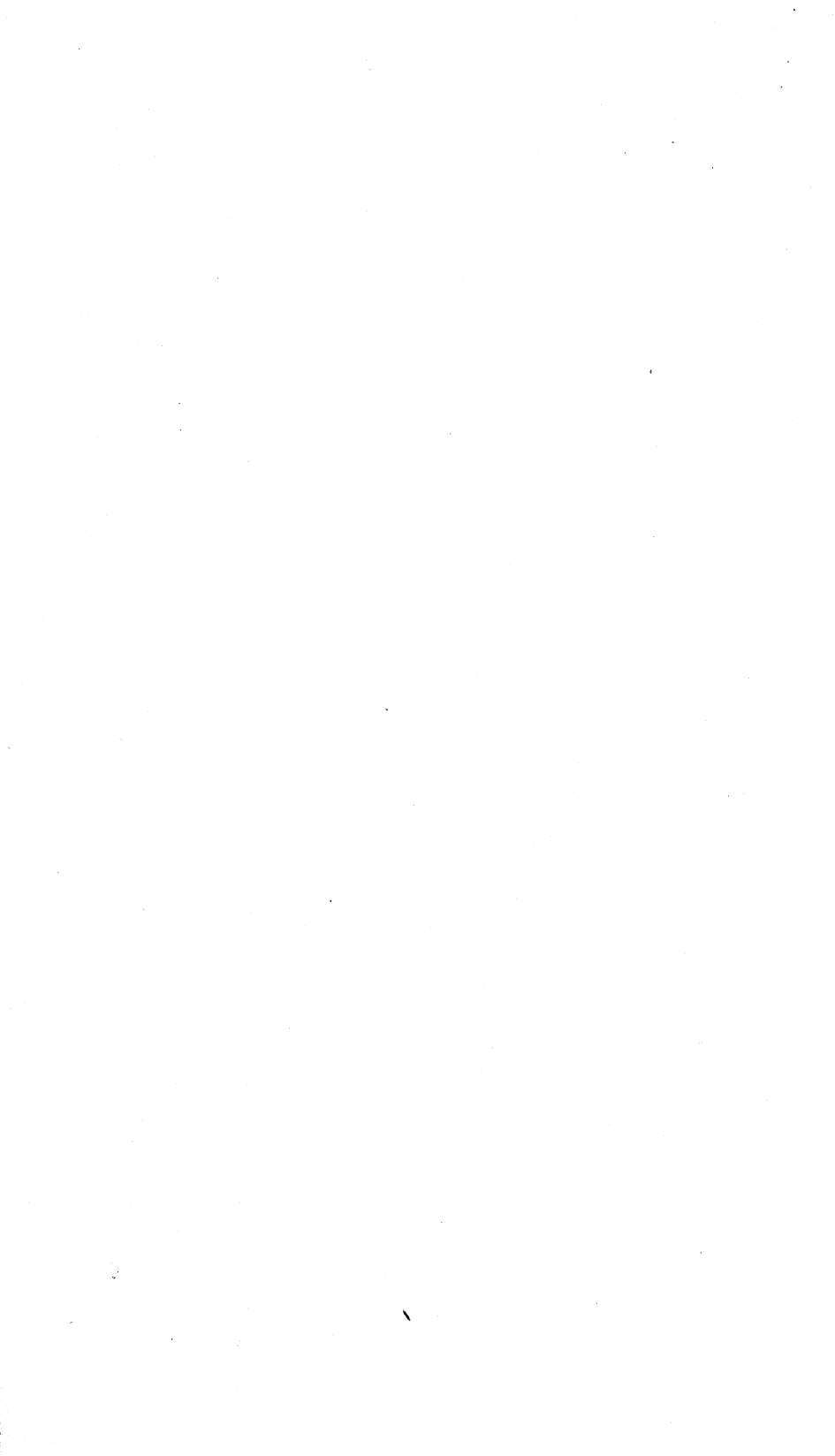
The dental clinics supported by the Junior Red Cross and the municipalities have been increased in number and have adopted standard forms and methods. Health teaching has been continued in the schools. The school for the blind has been moved to larger and better quarters pending the completion of a new building, and another assistant trained in the States has been added to the staff.

In the difficult period of transition, the fostering of wholesome recreation is most important. To further the program of health and social progress for girls, the department of education is cooperating with the Girl Scouts. The Girl Scouts are now giving special training to an organizer who will work through the school system in developing scout work for girls.

In the homeless boys of San Juan the business men's organizations have shown a continuing interest. They have raised several thousand dollars for constructive work for these handicapped children.

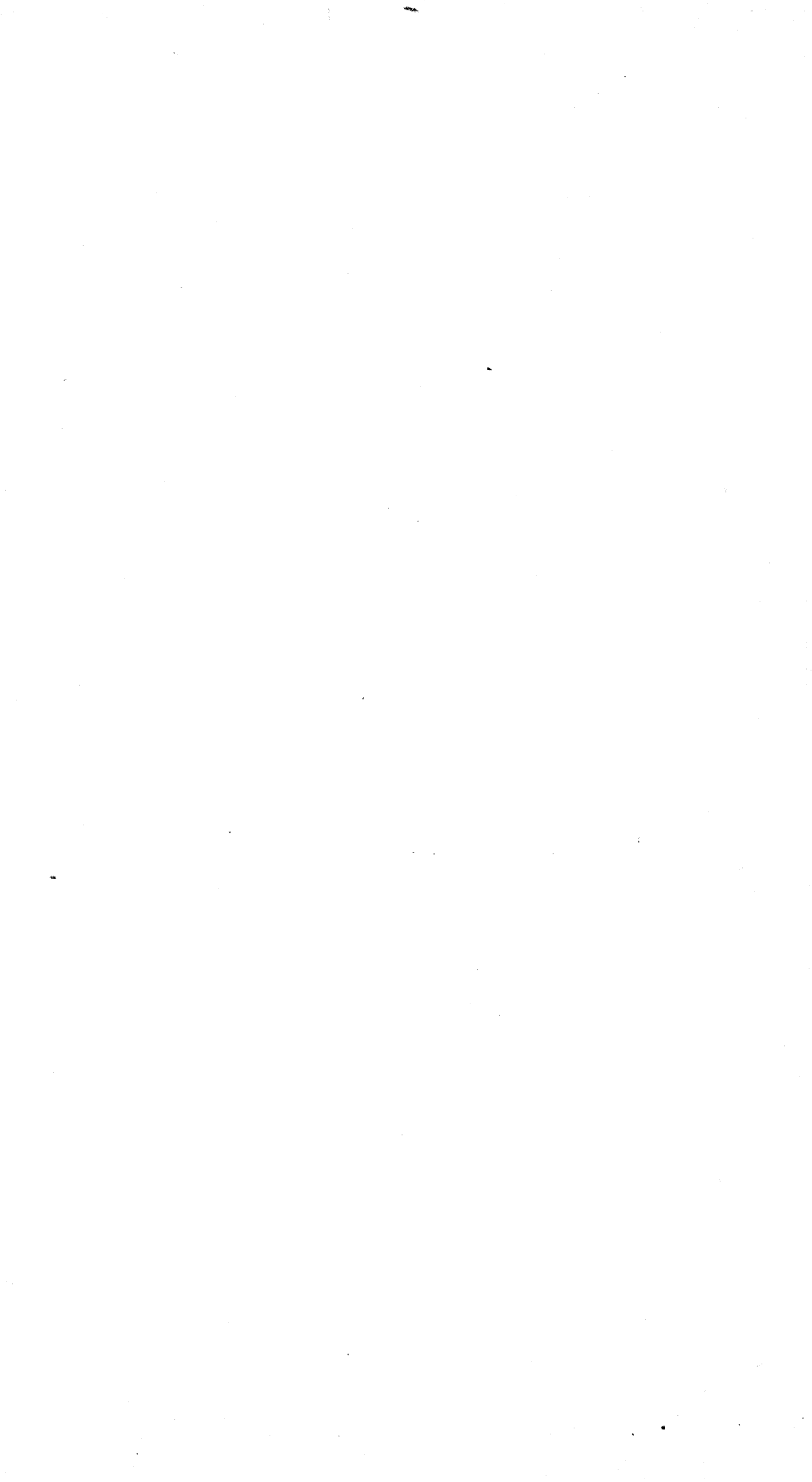
54912°—23—6











DO

ATE

THE UNIVERSITY OF MICHIGAN

DATE DUE

~~MAR 22 1989~~

MAR 25 1989

~~SEP 8 1989~~

JUL 05 1989




UNIV. OF MICH.

OCT 24 1924

BOUND

UNIVERSITY OF MICHIGAN



3 9015 01352 6713

Filed by Preservation NEH 1992

Not for use in the University of Michigan  
Library System  
or any other library

1992 1 16 92

1992 1 16 92

HV

741

.A39